JVC®

SERVICE MANUAL

HD CAMERA RECORDER

GY-HD100U/GY-HD100E
GY-HD101E

GY-HD101E is added only the DV input function to GY-HD100E.

Mini DV

HDV

Note

- **Lead free solder used in the board (material : Sn, Ag, In, Bi, melting point : 227 Centigrade)**

No. HC009
Aug. 2005

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

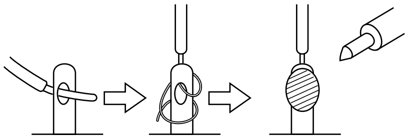


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

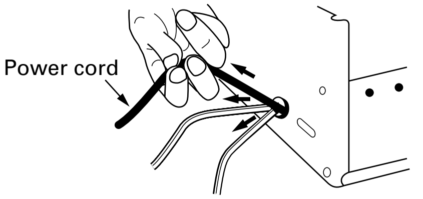


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number** : E03830-001
    2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

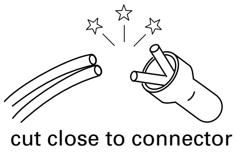


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

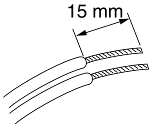


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

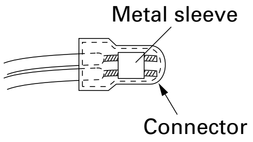


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

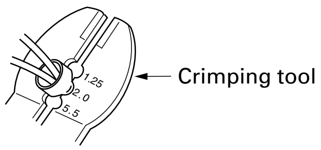


Fig.6

(5) Check the four points noted in Fig.7.

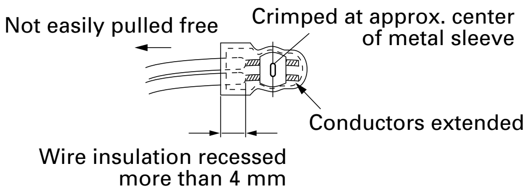

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

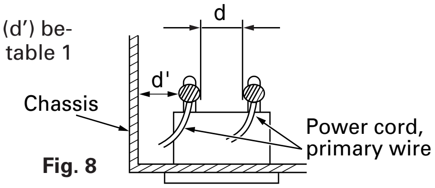


Fig. 8

4. **Leakage current test**
Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
Measuring Method : (Power ON)
Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

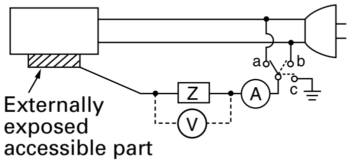


Fig. 9

5. **Grounding (Class Ⅰ model only)**
Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
Measuring Method:
Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

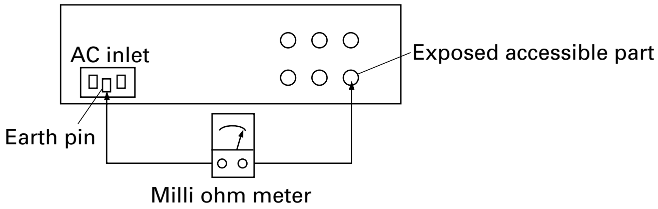


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 900 V 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

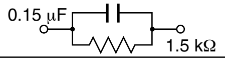
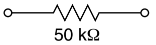
AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	 0.15 μF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		 50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
SERVICE CAUTIONS AND DISASSEMBLY

1.1 HOW TO REMOVE THE COSMETIC PARTS

1.1.1 Left side cover

(1) Remove the two screws ① , slide the cassette cover downward and pull out to remove.

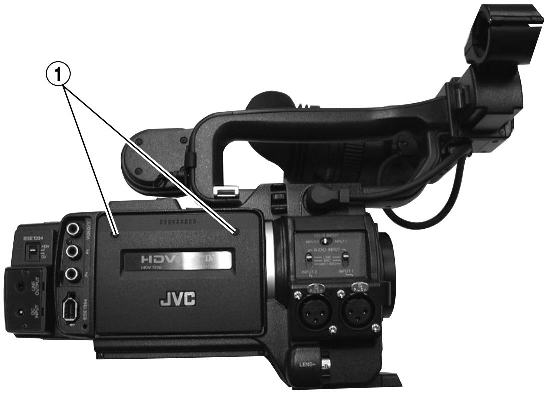


Fig. 1.1.1 (1)

Note :
When attaching the cassette cover, make sure to insert the hook of the cassette cover to the correct position of the cassette housing.

(2) Remove the two screws ② .

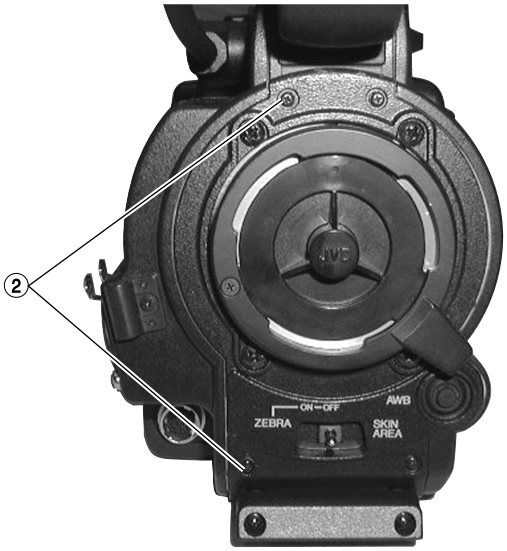


Fig. 1.1.1 (2)

(3) Remove the two screws ③ and open the left side cover.

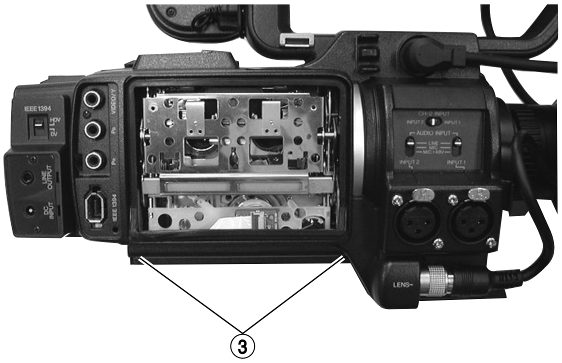


Fig. 1.1.1 (3)

(4) Disconnect the cables CN13 and CN43.

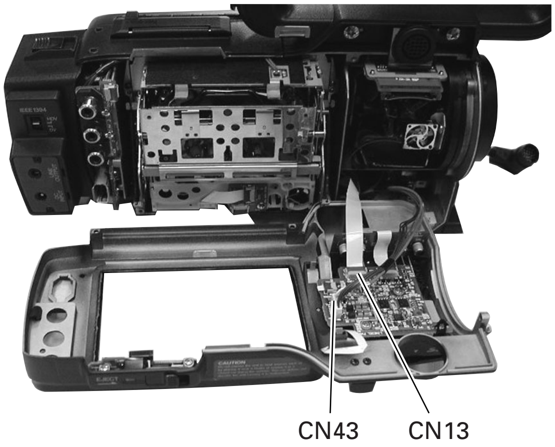


Fig. 1.1.1 (4)

1.1.2 Right side cover

(1) Remove the five screws ④ and open the right side cover.

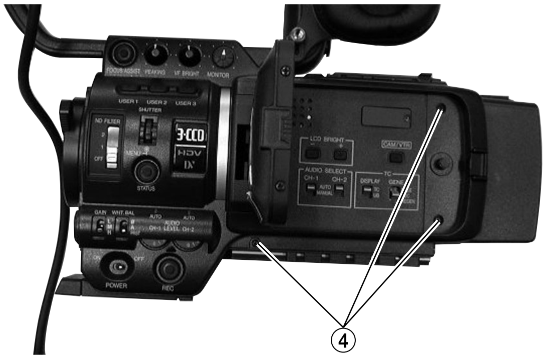


Fig. 1.1.2 (1)

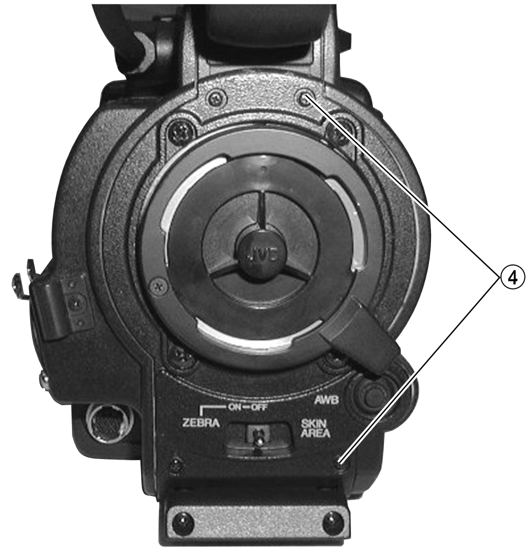

④
ZEBRA
ON-OFF
AWB
SKIN AREA

Fig. 1.1.2 (2)

(2) Disconnect the cables CN14, CN24 and CN43 on AUDIO board, CN10 and CN52 on STA board, CN52 on SWP board.

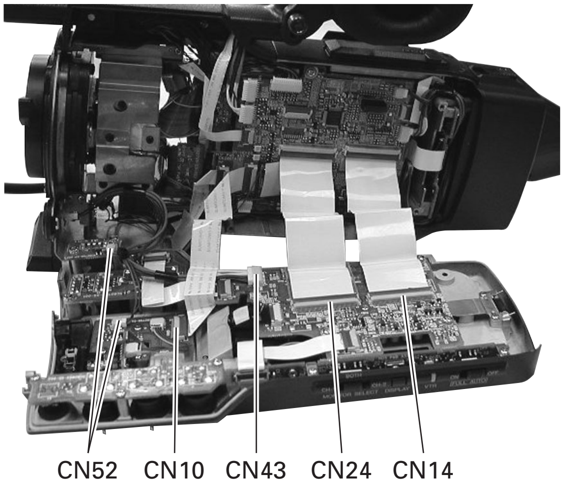

CN52
CN10
CN43
CN24
CN14

Fig. 1.1.2 (3)

1.2 HOW TO REMOVE THE OPTICAL BLOCK ASSEMBLY

CAUTION

When removing/mounting the optical block assembly in the camera, take care not to damage cables, also the positioning of the wire assembly is important. A malfunction may occur if a wire is somehow caught up.

(1) Remove left side cover and the right side cover. (see section 1.1.1 and 1.1.2)
(2) Remove the two screws ① and remove the FAN motor.

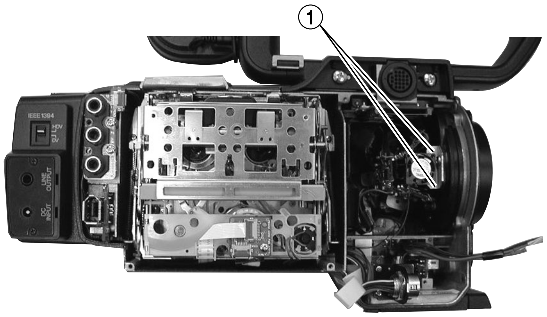


Fig. 1.2 (1)

(3) Remove the two screws ② and remove the SD board.
(4) Disconnect the cables CN26, CN27 and CN28.

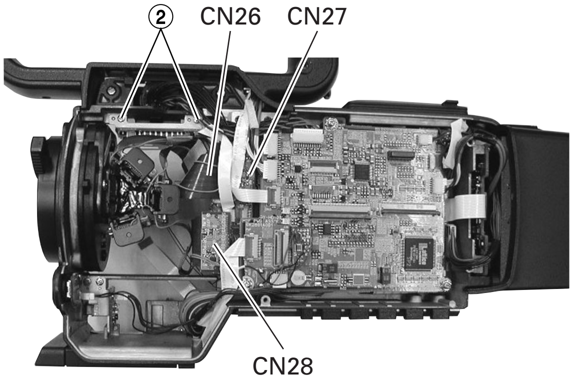

②
CN26
CN27
CN28

Fig. 1.2 (2)

(5) Remove the five screws ③ 3 and ④ , then remove the optical block assembly carefully not to damage boards and cables.

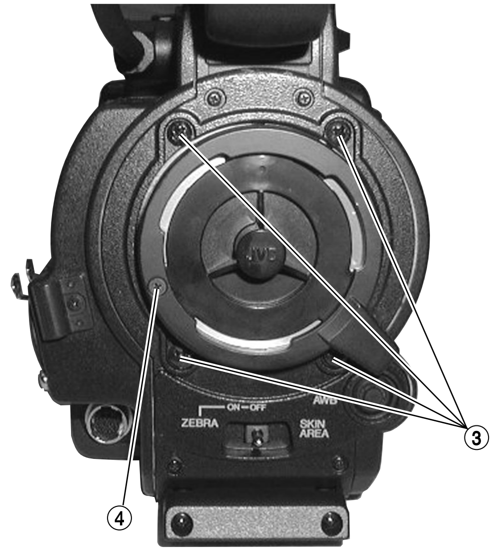


Fig. 1.2 (3)

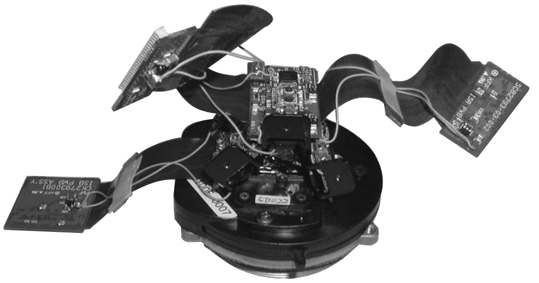


Fig. 1.2 (4)

Note :

- The CCDs are bonded precisely to the prism. In case of trouble with a CCD, it is not possible to replace an individual CCD, but the entire optical block assembly should be replaced.
- The optical block assembly supplied as a service part.
- When replacing the optical block, attach the original FAN and FNC board to the new optical block because those are not included on the optical block assembly.

1.3 HOW TO REMOVE VCR UNIT

1.3.1 Mechanism unit

(1) Remove the left side cover. (see section 1.1.1)

(2) Remove the four screws ①.

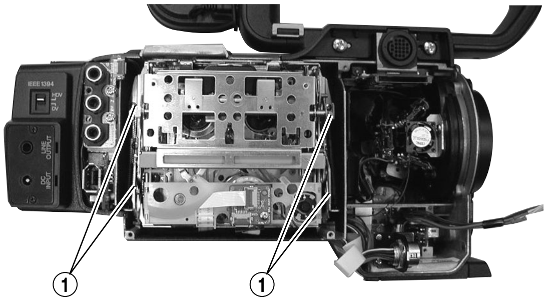


Fig. 1.3.1(1)

(3) Lift up the mechanism unit gently and disconnect the cablesCN75, CN16 and CN17.

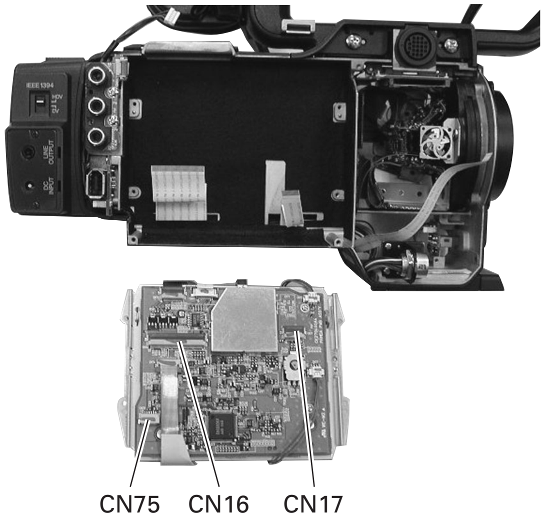


Fig. 1.3.1(2)

1.3.2 Cassette housing

(1) Remove the mechanism unit. (see section 1.3.1)

(2) Remove CN1 and release the motor wire. Release the lock sideways and remove the tape guard

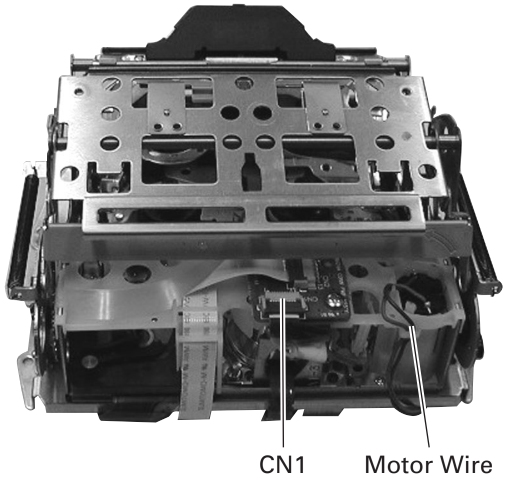


Fig. 1.3.2(1)

(3) Pop up the cassette housing by sliding release lever and remove the two screws ②.

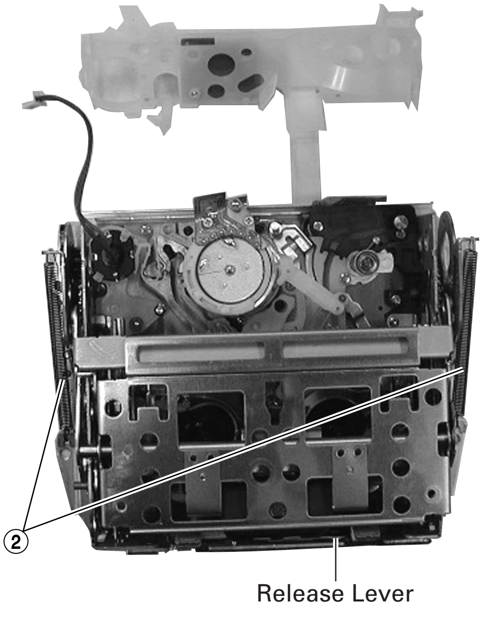


Fig. 1.3.2(2)

(4) Slide the outer unit to rear direction and lift up slightly. Pull out to side direction to release the outer unit. Perform same manner other side.

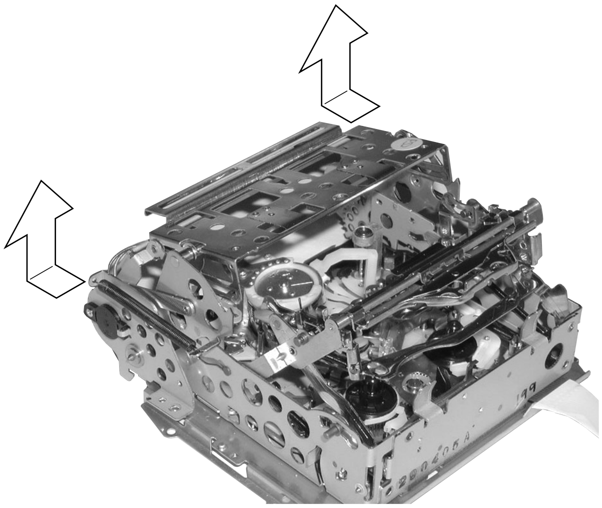


Fig. 1.3.2(3)

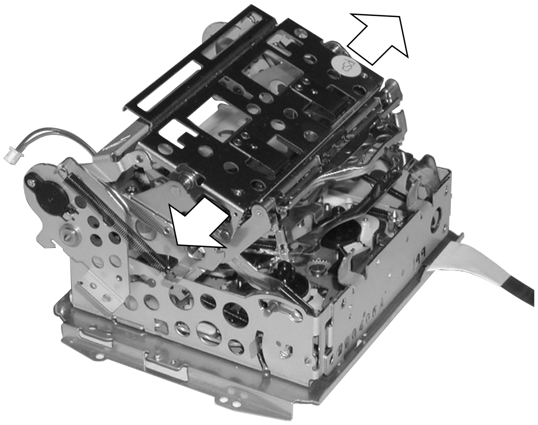


Fig. 1.3.2(4)

(5) Slide the cassette housing to the position of fig.1.3.2(5) and hold the cassette housing slightly to inside direction to release it.

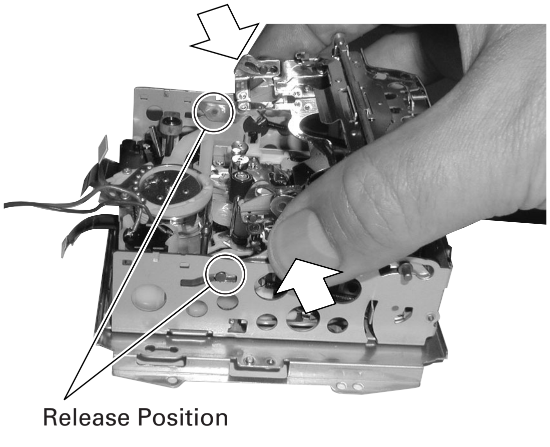


Fig. 1.3.2(5)

(6) Release bosses of the cassette housing from the mechanism unit.

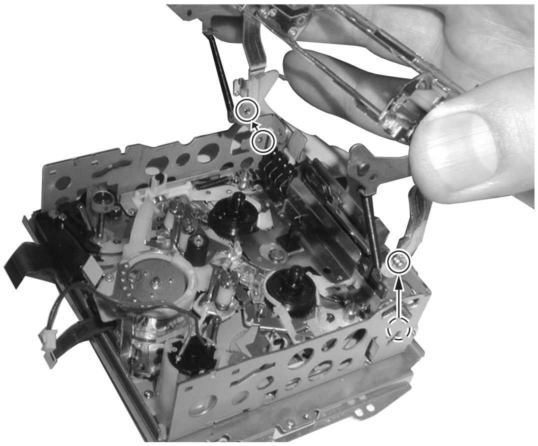


Fig. 1.3.2(6)

1.4 HOW TO REMOVE THE MAJOR BOARDS

1.4.1 Audio board

(1) Remove right side cover. (see section 1.1.2)
(2) Disconnect cables CN44, CN45 and CN62.
(3) Remove six screws ① and ②.

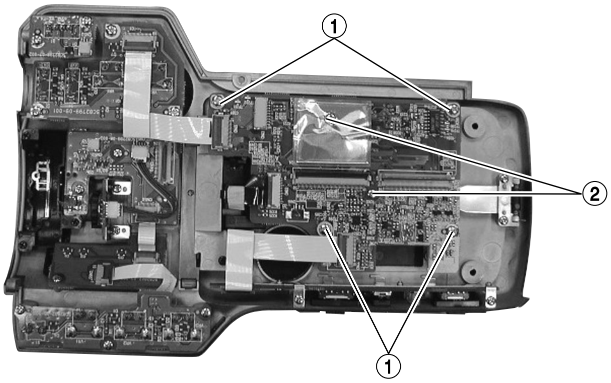


Fig. 1.4.1(1)

Note :
CN62 may be slightly hard to connect FPC cable. Make sure to insert the cable to correct position.

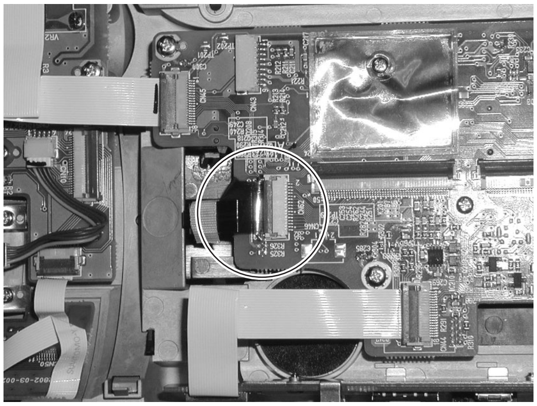


Fig. 1.4.1(2)

1.4.2 LCD monitor

(1) Remove Audio board. (see section 1.4.1)
(2) Remove two screws ③.

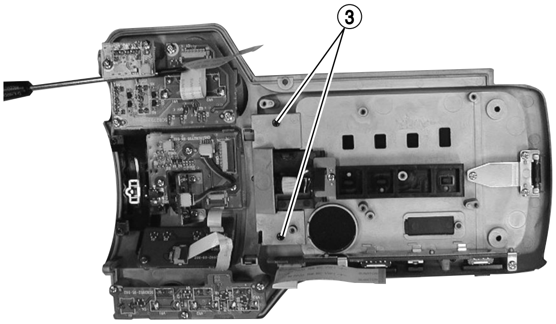


Fig. 1.4.2(1)

(3) Remove the hinge cover and remove two screws ④.

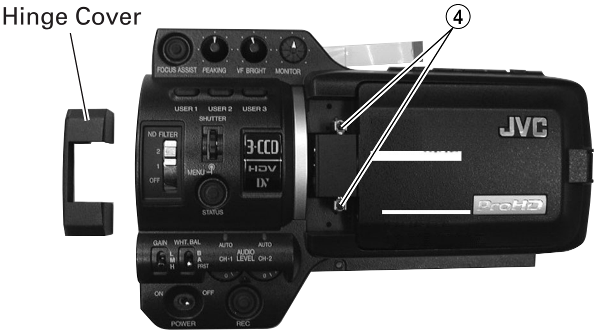

Hinge Cover
④
FOCUS ASSIST
PEAKING
VF BRIGHT
MONITOR
USER 1
USER 2
USER 3
SHUTTER
ND FILTER
MENU
STATUS
3-CCD
HDV
DV
JVC
ProHD
GAIN
WHT.BAL
AUTO
AUDIO LEVEL
CH-1
CH-2
ON
OFF
POWER
REC

Fig. 1.4.2(2)

1.4.3 MIF board

(1) Remove the right side cover. (see section 1.1.2)

(2) Remove four screws ⑤.

(3) Remove the cables CN4, CN9, CN11, CN12, CN13, CN22, CN23, 34 and CN48, then lift up MIF board to release B to B connector between MIF board and MAIN board.

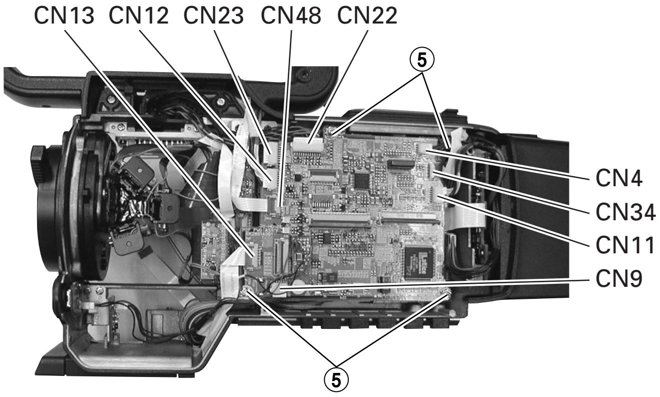

CN13
CN12
CN23
CN48
CN22
⑤
CN4
CN34
CN11
CN9
⑤

Fig. 1.4.3

1.4.4 MAIN board

(1) Remove MIF board. (see section 1.4.3)

(2) Remove six screws ⑥ and ⑦.

(3) Remove the cables CN3, CN16, CN17, CN18, CN19, CN26, CN27, CN28, CN29 and CN30.

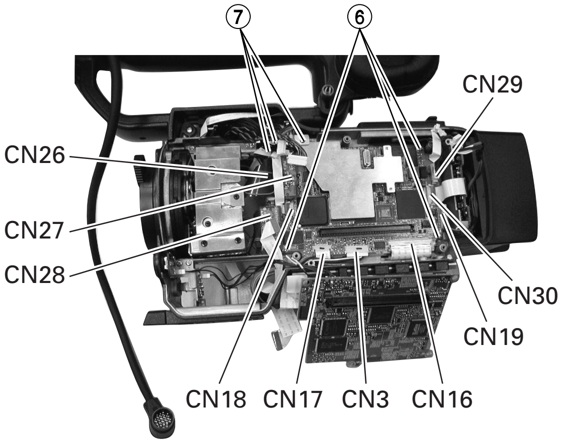

⑦
⑥
CN29
CN26
CN27
CN28
CN30
CN19
CN18
CN17
CN3
CN16

Fig. 1.4.4(1)

(4) Slide the MAIN board downward and pull out. Do not bend the Heat Pipe.

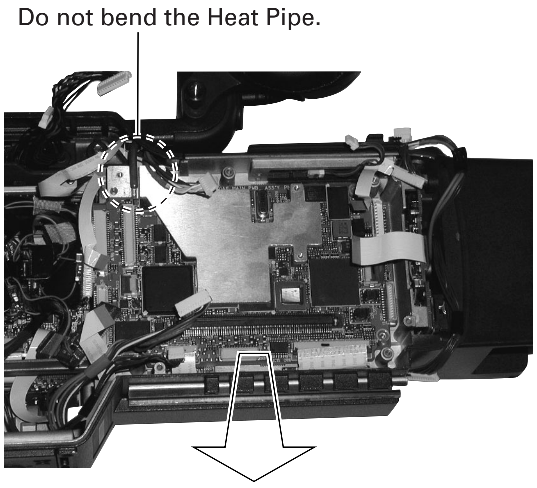

Do not bend the Heat Pipe.

Fig. 1.4.4(2)

(5) Remove the two screws ⑧. Remove the heat sink carefully because it is being fitted sticky.

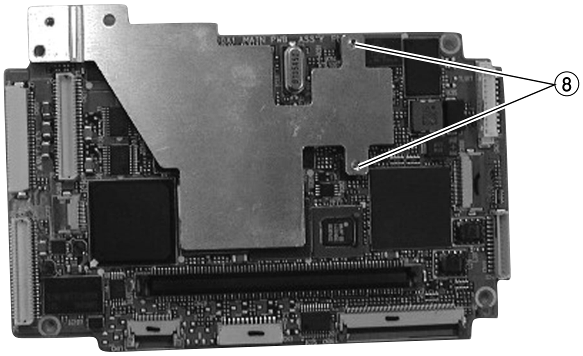


Fig. 1.4.4(3)

1.4.5 HANDLE assembly

(1) Remove left side cover and right side cover. (see section 1.1.1 and 1.1.2)

(2) Remove two screws ⑨.

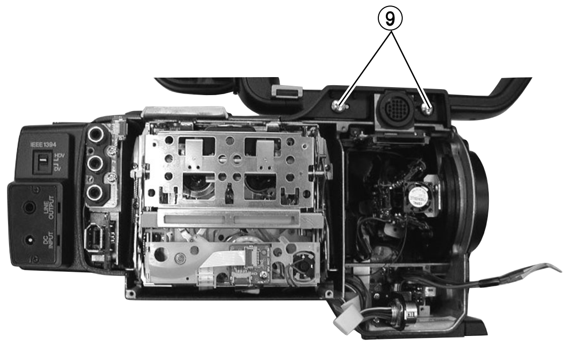


Fig. 1.4.5(1)

(3) Remove the cables CN12 and CN48. Remove the two screws ⑩ and lift up the handle assembly.

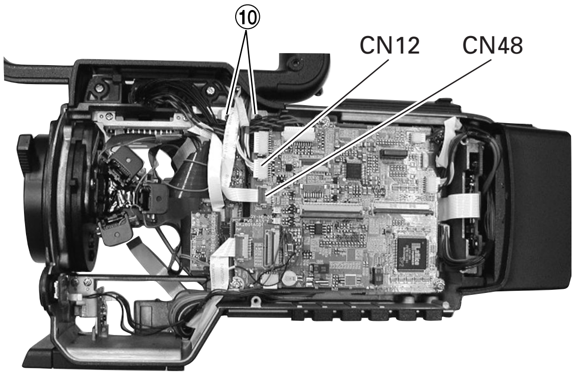


Fig. 1.4.5(2)

(4) Remove three screws ⑪.

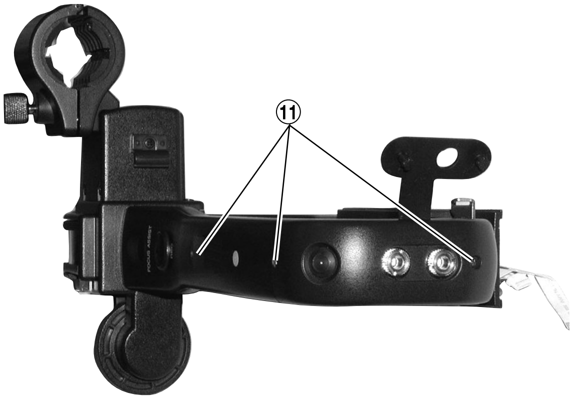


Fig. 1.4.5(3)

(5) Remove the handle cover R and handle cover T.

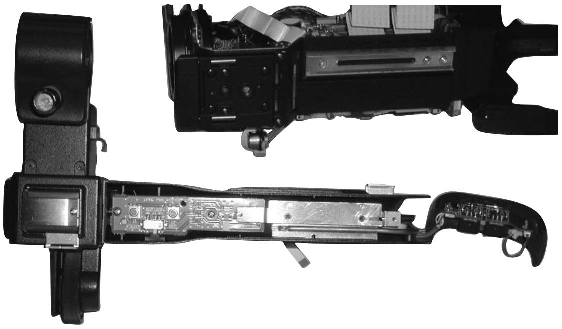


Fig. 1.4.5(4)

Note :
When connecting the LED connector on EAR board, ensure the polarity that the red wire should be connected longer pin of LED.

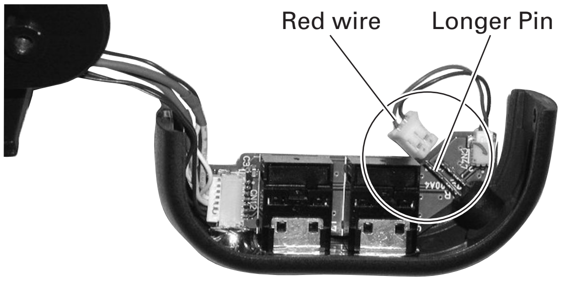

Red wire
Longer Pin

Fig. 1.4.5(5)

Note :
When removing the Heat Sink Ass'y, bend the Heat Pipe slightly like Fig. 1.4.5(6).
Return the bend after attaching the Heat Sink Ass'y.
Do not bend the other portion of Heat Pipe.

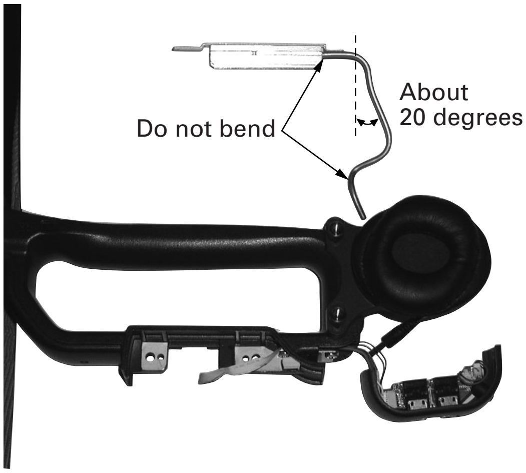

About
20 degrees
Do not bend

Fig. 1.4.5(6)

1.4.6 PS board

(1) Remove the four screws ⑫.

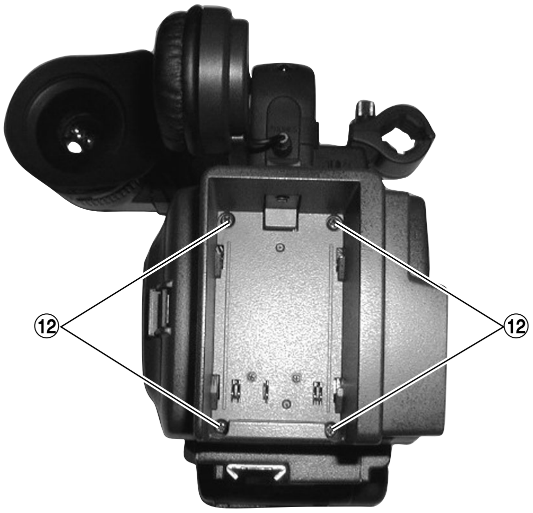


Fig. 1.4.6(1)

(2) Remove the four screws ⑬ and ⑭. Disconnect the cables CN1, 29, CN30, CN53 and CN75.

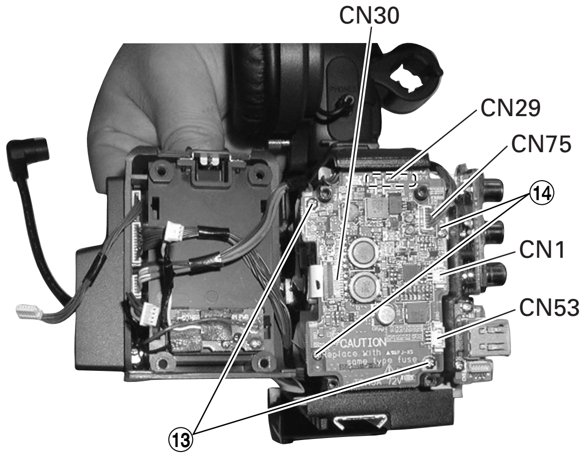


Fig. 1.4.6(2)

Note :
When replacing the fuse F1, ensure to replace with same type fuse. (refer to the parts list)

1.5 SERVICE MENUS

1.5.1 Modes required in servicing

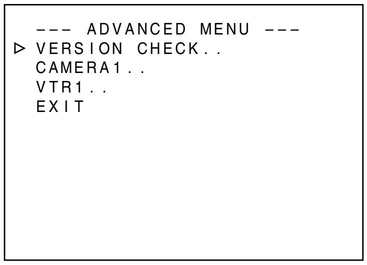
(1) While holding down the specified button(s) (FOCUS ASSIST, USER 3), press and hold the STATUS button for more than 1 second in order to display the first-level menu of the service menu hierarchy. The items in the first-level menu vary according to which specified button is being held at the moment the STATUS button is pressed. (Characters are displayed on LCD monitor screen or View finder.)

Item	Displayed Content	When power up		
		–	Holding DISPLAY button	Holding DISPLAY button
		Activation Method		
		FOCUS ASSIST	USER 3	FOCUS ASSIST + USER 3
CAMERA1 MENU	Camera setting, blemish detect	○	○	○
CAMERA2 MENU	Error correct ON/OFF	–	○	○
CAMERA3 MENU	AW data reset menu	–	–	○
VTR1 MENU	Repeat, FF/REW speed setting	○	○	○
VTR2 MENU	Long pause, shutdown setting	–	○	○
VTR3 MENU	Reserved, BATT, Info.	–	–	○
DIP SW	DIP SW MENU	–	○	○
HOUR METER	Hour Meter indication	–	○	○
ERROR HISTORY	Error History	–	○	○
OTHERS	MENU SAVE etc.	–	○	○
VERSION	CPU Version indication	○	–	–

Table 1-5-1 Service Menu First Tier List

1.5.2 Operation in the first-level of the service menu

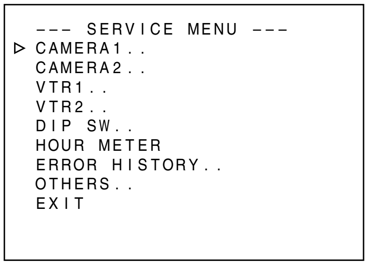
(1) While holding down the specified button(s) (FOCUS ASSIST or USER 3), press and hold the STATUS button for more than 1 second.
(2) The first-level of the service menu is displayed.
(3) Rotate the SHUTTER dial to move the cursor (▷) on to the item to be modified.
(4) Push into the SHUTTER dial to direct the item on which the cursor (▷) is located.
- Pressing the STATUS button returns to the MENU display.
- Can not open the service MENU while recording.



```
  --- ADVANCED MENU ---
▷ VERSION CHECK..
  CAMERA1..
  VTR1..
  EXIT
```

Fig. 1-5-2 (1)

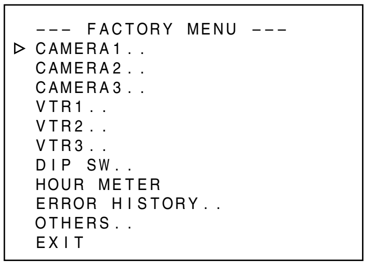
While holding down the FOCUS ASSIST button, press and hold STATUS button for more than 1 second, this MENU screen is shown on the monitor. (Refer to Fig. 1-5-2(1))



```
--- SERVICE MENU ---
▷ CAMERA1..
  CAMERA2..
  VTR1..
  VTR2..
  DIP SW..
  HOUR METER
  ERROR HISTORY..
  OTHERS..
  EXIT
```

Fig. 1-5-2 (2)

At first, while holding down the DISPLAY button, turn ON the power switch, and then, while holding down the USER 3 button, press and hold STATUS button for more than 1 second, this MENU screen is shown on the monitor. (Refer to Fig. 1-5-2(2))



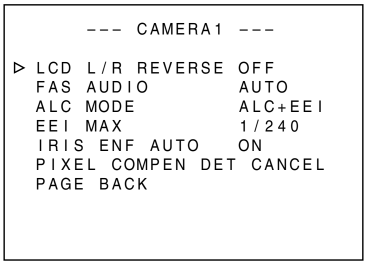
```
--- FACTORY MENU ---
▷ CAMERA1..
  CAMERA2..
  CAMERA3..
  VTR1..
  VTR2..
  VTR3..
  DIP SW..
  HOUR METER
  ERROR HISTORY..
  OTHERS..
  EXIT
```

Fig. 1-5-2 (3)

At first, while holding down the DISPLAY button, turn ON the power switch, and then, While holding down the FOCUS ASSIST and USER 3 button, press and hold STATUS button for more than 1 second, this MENU screen is shown on the monitor. (Refer to Fig. 1-5-2(3))

1.5.3 CAMERA 1 menu

(1) In a service menu, place the cursor (▷) on “CAMERA 1” and push the SHUTTER dial to display the CAMERA1 menu.



```
      --- CAMERA1 ---

▷ LCD L/R REVERSE OFF
  FAS AUDIO       AUTO
  ALC MODE        ALC+EEI
  EEI MAX         1/240
  IRIS ENF AUTO   ON
  PIXEL COMPEN DET CANCEL
  PAGE BACK
```

Fig. 1-5-3 (1)

(2) Rotate the SHUTTER dial to move the cursor (▷) on the mode to be adjusted.
(3) Push the SHUTTER dial so that the parameter blinks.
(4) Rotate the SHUTTER dial to vary the parameter.
(5) After completing the parameter setting, push the SHUTTER dial to stop the blinking of the parameter and store the setting in memory.
(6) After completing the setting, move the cursor (▷) to “PAGE BACK” and push the SHUTTER dial to return to the display at the higher hierarchy level.

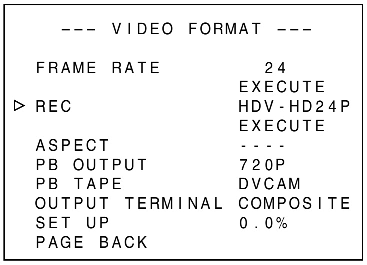
Item	Parameter		
LCD L/R REVERSE	$\boxed{\text{OFF}}$		When the face of LCD screen is turned toward the camera subject, does not invert the left and right of the LCD display. (normal image)
	ON		When the face of LCD screen is turned toward the camera subject, inverts the left and right of the LCD display. (mirror image)
FAS AUDIO	$\boxed{\text{AUTO}}$		When selected FAS mode, audio recording Level will be automatically set to AUTO mode.
	SW SET		When selected FAS mode, audio recording level will be depending on switch setting.
ALC MODE	$\boxed{\text{ALC + EEI}}$		When selected ALC mode including FAS mode, EEI function will be activated.
	ONLY ALC		When selected ALC mode including FAS mode, EEI function will not be activated.
EEI MAX	U MODEL	1/240	Maximum shutter speed is set to 1/240 second.
		$\boxed{\text{1/480}}$	Maximum shutter speed is set to 1/480 second.
		1/960	Maximum shutter speed is set to 1/960 second.
	E MODEL	1/200	Maximum shutter speed is set to 1/200 second.
		$\boxed{\text{1/400}}$	Maximum shutter speed is set to 1/400 second.
		1/800	Maximum shutter speed is set to 1/800 second.
IRIS ENF. AUTO	OFF		When selected FULL AUTO mode, IRIS mode will be depeng on IRIS MODE switch of the lens.
	$\boxed{\text{ON}}$		When selected FULL AUTO mode, Auto Iris mode will be activated even Manual Iris mode is selected.
PIXEL COMPEN DET	$\boxed{\text{CANCEL}}$		Does not execute blemish detection.
	EXECUTE		Execute blemish detection.

(☐ indicates the factory setting.)

Table 1-5-3 (1)

■ White blemish detection

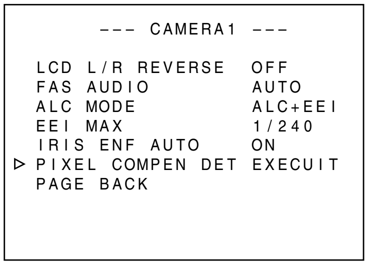
Open the User MENU, select "VIDEO FORMAT", "REC", set to "HDV-HD24P" and push the SHUTTER dial.
Select "FRAME RATE", set to "24" and push the SHUTTER dial. Select "EXECUTE", push the SHUTTER dial, then GY-HD100 is automatically rebooted.



```
    --- VIDEO FORMAT ---

  FRAME RATE         24
                   EXECUTE
▷ REC              HDV-HD24P
                   EXECUTE
  ASPECT           ----
  PB OUTPUT        720P
  PB TAPE          DVCAM
  OUTPUT TERMINAL  COMPOSITE
  SET UP           0.0%
  PAGE BACK
```

Fig. 1-5-3 (2)

Open the Service MENU, select "CAMERA1", "PIXEL COMPEN DET", "EXECUTE" and push the SHUTTER dial, then CCD white blemish detect operation start automatically.
At this time, the lens is closed and the camera is in the SLOW SHUTTER
mode.

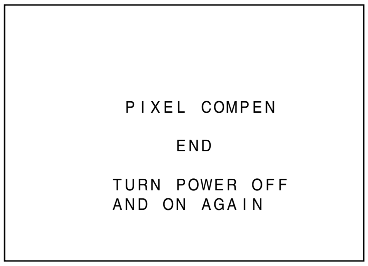


```
--- CAMERA1 ---

  LCD L/R REVERSE   OFF
  FAS AUDIO         AUTO
  ALC MODE          ALC+EEI
  EEI MAX           1/240
  IRIS ENF AUTO     ON
▷ PIXEL COMPEN DET  EXECUIT
  PAGE BACK
```

Fig. 1-5-3 (3)

After completing white blemish detection, return "REC" and "FRAME RATE" setting to original one's.

When the white blemish detection completes, the result data is stored in the memory of CPU,
end message is shown as below, then please turn off.



```
PIXEL COMPEN

    END

TURN POWER OFF
AND ON AGAIN
```

Fig. 1-5-3 (4)

If any errors occurs during the detection operation, an error message is displayed , and return to MENU display.

Message	Error details	Treatment
LENS NOT CLOSED?	The lens does not close for detection.	No result is stored in the EEPROM.
COUNT OVER	The number exceeds the specified count.	Only the specified count of data is stored in the EEPROM.

Table 1-5-3 (2)

■ Details on correctable white blemish

Up to 127 errors with composite video levels of 50mV or more can be corrected. No limitation of errors per line within 127 however, the maximum consecutive errors are 4 and the correction results may be inferior to the case of single error correction.

Oblique noise may be observed on the screen during white blemish detection. This is due to the principles of error correction and is not a malfunction.

White blemish can be detected in the following area.

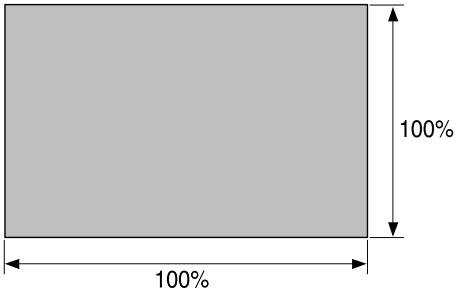
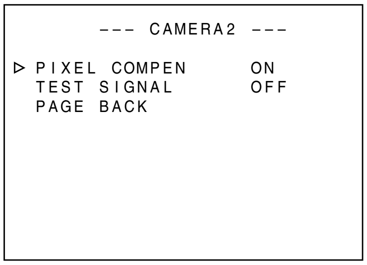


Fig. 1-5-3 (5)

1.5.4 CAMERA 2 menu

(1) In a service menu, place the cursor on “CAMERA 2” and push the SHUTTER dial to display the CAMERA2 menu.



```
--- CAMERA2 ---

▷ PIXEL COMPEN     ON
  TEST SIGNAL      OFF
  PAGE BACK
```

Fig. 1-5-4

Operation ways are almost same as CAMERA 1 MENU, so please refer it.

Item	Parameter	
PIXEL COMPEN *1	OFF	Does not correct the detected white blemish.
	ON	Corrects the detected white blemish.
	CHECK	Light up the pixels which are the detected white blemish.

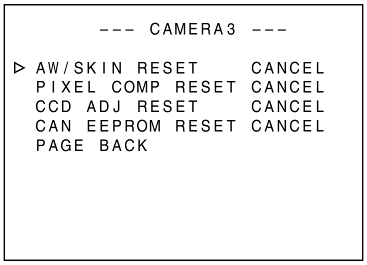
(☐ indicates the factory setting.)

Table 1-5-4

*1: This mode is automatically set to ON when the power is turned on.
The OFF mode is enabled only after it is set to OFF at this screen until the power is turned off.

1.5.5 CAMERA 3 menu

In a service menu, place the cursor on “CAMERA 3” and push the SHUTTER dial to display the CAMERA3 menu.



```
        --- CAMERA3 ---

▷ AW/SKIN RESET      CANCEL
  PIXEL COMP RESET   CANCEL
  CCD ADJ RESET      CANCEL
  CAN EEPROM RESET   CANCEL
  PAGE BACK
```

Fig. 1-5-5

Operation ways are almost same as CAMERA 1 MENU, so please refer it.

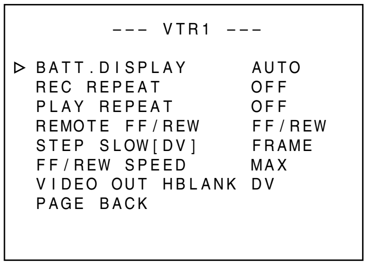
Item	Parameter	
AW/SKIN RESET	$\boxed{\text{CANCEL}}$	Does not reset the auto white data and the skin detect data.
	EXECUTE	Resets the auto white data and the skin detect data.
PIXEL COMP RESET	$\boxed{\text{CANCEL}}$	Does not reset the detected white blemish data.
	EXECUTE	Resets the detected white blemish data.
CCD ADJ RESET	$\boxed{\text{CANCEL}}$	Does not reset the CCD adjustment data.
	EXECUTE	Resets the CCD adjustment data.
CAM EEPROM RESET	$\boxed{\text{CANCEL}}$	Does not reset the EEPROM data for CAMERA CPU.
	EXECUTE	Resets the EEPROM data for CAMERA CPU.

(☐ indicates the factory setting.)

Table 1-5-5

1.5.6 VTR 1 menu

In a service menu, place the cursor on “VTR 1” and push the SHUTTER dial to display the VTR 1 menu.



```
        --- VTR1 ---

▷ BATT.DISPLAY       AUTO
  REC REPEAT         OFF
  PLAY REPEAT        OFF
  REMOTE FF/REW      FF/REW
  STEP SLOW[DV]      FRAME
  FF/REW SPEED       MAX
  VIDEO OUT HBLANK   DV
  PAGE BACK
```

Fig. 1-5-6

Operation ways are almost same as CAMERA 1 MENU, so please refer it.

Item	Parameter	
BATT. DISPLAY	OFF	Does not indicate the Battery information.
	$\boxed{\text{AUTO}}$	Show the Battery information as Battery Info of VTR3 MENU.
REC REPEAT	$\boxed{\text{OFF}}$	Disable repeat recording
	2	Perform repeat recording 2 times.
	5	Perform repeat recording 5 times.
	12	Perform repeat recording 12 times.
	ON	Enable full repeat recording.
PLAY REPEAT	$\boxed{\text{OFF}}$	Disable repeat playback.
	ON	Enable repeat playback.
REMOTE FF/REW	$\boxed{\text{FF/REW}}$	When FF/REW command is received from REMOTE, it runs as FF/REW mode.
	SEARCH	When FF/REW command is received from REMOTE, it runs as search FWD/REV mode.
STEP SLOW [DV]	FIELD	
	$\boxed{\text{FRAME}}$	
FF/REW SPEED	X5	Maximum FF/REW speed is limited up to x5.
	X7.5	Maximum FF/REW speed is limited up to x7.5.
	X10	Maximum FF/REW speed is limited up to x10.
	$\boxed{\text{MAX}}$ *1	No limitation
VIDEO OUT HBLANK	DV	Horizontal effective pixels are 720.
	$\boxed{\text{STANDARD}}$	Horizontal effective pixels are 710 at 60/30 frame rate and 702 at 50/25 frame rate.

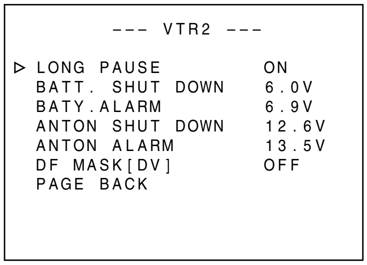
(☐ indicates the factory setting.)

Table 1-5-6

*1: Maximum speed is x20 at VTR mode, but no function at CAM mode.

1.5.7 VTR 2 menu

In a service menu, place the cursor on “VTR 2” and push the SHUTTER dial to display the VTR 2 menu.



```
      --- VTR2 ---

▷ LONG PAUSE          ON
  BATT. SHUT DOWN     6.0V
  BATY.ALARM          6.9V
  ANTON SHUT DOWN     12.6V
  ANTON ALARM         13.5V
  DF MASK[DV]         OFF
  PAGE BACK
```

Fig. 1-5-7

Operation ways are almost same as CAMERA 1 MENU, so please refer it.

Item	Parameter	
LONG PAUSE	OFF	Disable the long pause function.
	ON	Enable the long pause function.
BATT. SHUTDOWN *1	6.8V	Setting of the battery voltage when shutdown should occur. (Setting in 0.1V steps between 6.3V and 7.5V.)
BATT. ALARM *1	6.9V	Setting of the battery voltage when battery alarm is indicated. (Setting in 0.1 V steps between 6.3V and 8.0V.)
ANTON SHUT DOWN	12.0V	Setting of the ANTON battery voltage when shutdown should occur. (Setting in 0.1V steps between 10.5V and 13.6V.)
ANTON ALARM	13.5V	Setting of the ANTON battery voltage when battery alarm is indicated. (Setting in 0.1 V steps between 10.5V and 13.6V.)
DV DF MASK *2	OFF	"1" is recorded as per format.
	ON	"0" is always recorded.

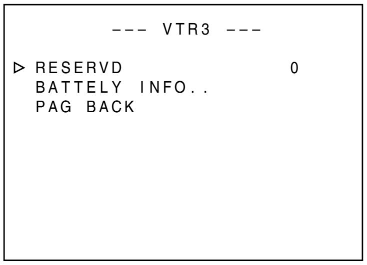
(☐ indicates the factory setting.)

Table 1-5-7

*1 : When operating by DC input, then “SHUT DOWN” will be set to 6.0V, and “ALARM” will be set to 6.9V automatically, and these setting will not relate to menu setting.
*2 : FRAME RATE 50/25 only

1.5.8 VTR 3 menu

In a service menu, place the cursor on “VTR 3” and push the SHUTTER dial to display the VTR 3 menu.



```
      --- VTR3 ---

▷ RESERVD                0
  BATTELY INFO..
  PAG BACK
```

Fig. 1-5-8 (1)

Changing of setting is prohibited.

Item	Parameter	
RESERVED	0	Normal setting
BATTERY INFO		Refer to next page.

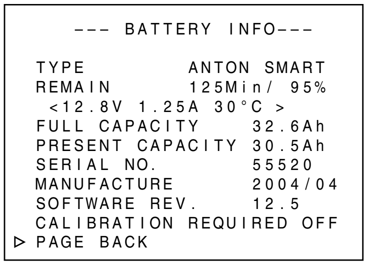
(☐ indicates the factory setting.)

Table 1-5-8 (1)

■ BATTERY INFO Display

Display method

Move the cursor to the “BATTERY INFO..” in “VTR3” screen and press SHUTTER dial. BATTERY INFO screen (right figure) will be displayed.



```
    --- BATTERY INFO---

  TYPE           ANTON SMART
  REMAIN         125Min/ 95%
   <12.8V 1.25A 30°C >
  FULL CAPACITY      32.6Ah
  PRESENT CAPACITY   30.5Ah
  SERIAL NO.         55520
  MANUFACTURE        2004/04
  SOFTWARE REV.      12.5
  CALIBRATION REQUIRED OFF
▷ PAGE BACK
```

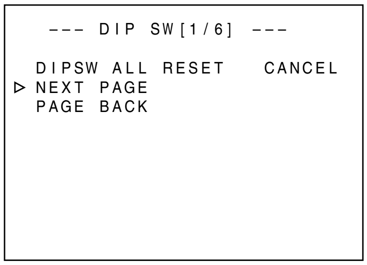
Fig.1-5-8 (2) BATTERY INFO
(When the Anton/Bauer Smart Battery is detected)

Item		Descriptions	
TYPE		ANTON SMART	When ANTON/BAUER SMART BATTERY is connected
		AFG	When BATTERY with I/F of AFG (AnalogFuelGauge) is connected
		OTHERS	When other BATTERY is connected
		NO DETECT	When no BATTERY is connected
REMAIN	Minute	Remaining battery lasting time [min] calculated based on current power consumption	
	%	Current remaining capacity [%] corresponding to total battery capacity	
	Voltage	Output voltage of battery	
	Current	Output current of battery	
	Temperature	Temperature of battery	
FULL CAPACITY		Capacity [Ah] when the BATTERY is fully charged	
PRESENT CAPACITY		Current BATTERY capacity [Ah]	
SERIAL NO.		Manufactured serial number	
MANUFACTURE		Manufactured date	
SOFTWARE REV.		Software revision number	
CALIBRATION REQUIRED		OFF	Calibration not required
		ON	Calibration required

Table 1-5-8 (2)

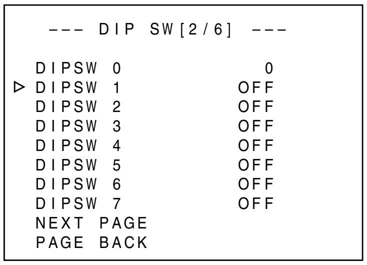
1.5.9 DIP SW menu

(1) In a service menu, place the cursor on “DIP SW ” and push the SHUTTER dial to display the DIP SW menu.



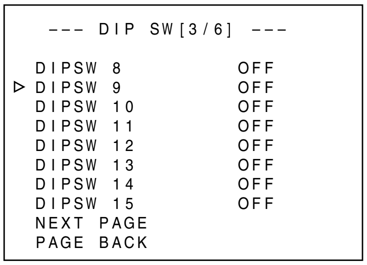
```
   --- DIP SW[1/6] ---

  DIPSW ALL RESET   CANCEL
▷ NEXT PAGE
  PAGE BACK
```

Fig. 1-5-9 (1)



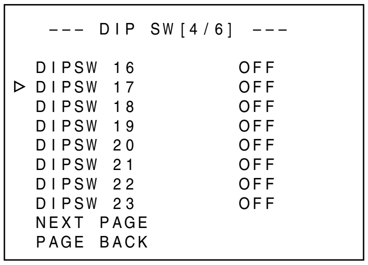
```
   --- DIP SW[2/6] ---

  DIPSW 0            0
▷ DIPSW 1          OFF
  DIPSW 2          OFF
  DIPSW 3          OFF
  DIPSW 4          OFF
  DIPSW 5          OFF
  DIPSW 6          OFF
  DIPSW 7          OFF
  NEXT PAGE
  PAGE BACK
```

Fig. 1-5-9 (2)



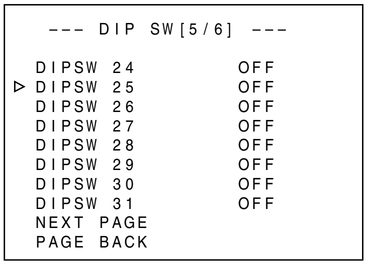
```
   --- DIP SW[3/6] ---

  DIPSW 8          OFF
▷ DIPSW 9          OFF
  DIPSW 10         OFF
  DIPSW 11         OFF
  DIPSW 12         OFF
  DIPSW 13         OFF
  DIPSW 14         OFF
  DIPSW 15         OFF
  NEXT PAGE
  PAGE BACK
```

Fig. 1-5-9 (3)



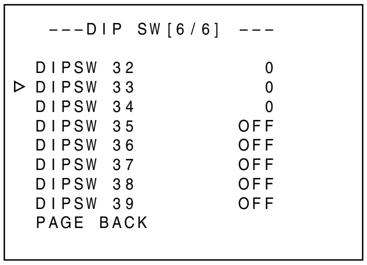
```
   --- DIP SW[4/6] ---

  DIPSW 16         OFF
▷ DIPSW 17         OFF
  DIPSW 18         OFF
  DIPSW 19         OFF
  DIPSW 20         OFF
  DIPSW 21         OFF
  DIPSW 22         OFF
  DIPSW 23         OFF
  NEXT PAGE
  PAGE BACK
```

Fig. 1-5-9 (4)



```
   --- DIP SW[5/6] ---

  DIPSW 24         OFF
▷ DIPSW 25         OFF
  DIPSW 26         OFF
  DIPSW 27         OFF
  DIPSW 28         OFF
  DIPSW 29         OFF
  DIPSW 30         OFF
  DIPSW 31         OFF
  NEXT PAGE
  PAGE BACK
```

Fig. 1-5-9 (5)



```
   ---DIP SW[6/6] ---

  DIPSW 32           0
▷ DIPSW 33           0
  DIPSW 34           0
  DIPSW 35         OFF
  DIPSW 36         OFF
  DIPSW 37         OFF
  DIPSW 38         OFF
  DIPSW 39         OFF
  PAGE BACK
```

Fig. 1-5-9 (6)

Operation ways are almost same as CAMERA 1 menu, so please refer it.

All DIP Switch settings which are shown below should not be changed ecxept for repair or maintenance. And do not forget to return original position after repair.

Item	Parameter	Factory setting
--- DIP SW 1/6 ---		
DIP SW ALL RESET	CANCEL Cancel to reset all DIPSW settings. EXECUTE Execute to reset all DIPSW settings.	CANCEL
--- DIP SW 2/6 ---		
DIP SW 0	1 : Displays error rate monitor and CPU port information	0
DIP SW 1	ON: Disable warning message display	OFF
DIP SW 2	Change prohibited	OFF
DIP SW 3	ON: Disable DEW warning	OFF
DIP SW 4	Change prohibited	OFF
DIP SW 5	Change prohibited	OFF
DIP SW 6	Change prohibited	OFF
DIP SW 7	Change prohibited	OFF
--- DIP SW 3/6 ---		
DIP SW 8	Change prohibited	OFF
DIP SW 9	Change prohibited	OFF
DIP SW 10	ON: Displays error rate solely for audio block on the error rate monitor screen	OFF
DIP SW 11	Change prohibited	OFF
DIP SW 12	Change prohibited	OFF
DIP SW 13	Change prohibited	OFF
DIP SW 14	Change prohibited	OFF
DIP SW 15	Change prohibited	OFF
--- DIP SW 4/6 ---		
DIP SW 16	Change prohibited	OFF
DIP SW 17	Change prohibited	OFF
DIP SW 18	Change prohibited	OFF
DIP SW 19	Change prohibited	OFF
DIP SW 20	Change prohibited	OFF
DIP SW 21	Change prohibited	OFF
DIP SW 22	Change prohibited	OFF
DIP SW 23	Change prohibited	OFF
--- DIP SW 5/6 ---		
DIP SW 24	Change prohibited	OFF
DIP SW 25	Change prohibited	OFF
DIP SW 26	Change prohibited	OFF
DIP SW 27	Change prohibited	OFF
DIP SW 28	Change prohibited	OFF
DIP SW 29	Change prohibited	OFF
DIP SW 30	Change prohibited	OFF
DIP SW 31	Change prohibited	OFF
--- DIP SW 6/6 ---		
DIP SW 32	Change prohibited	0
DIP SW 33	Change prohibited	0
DIP SW 34	Change prohibited	0
DIP SW 35	Change prohibited	OFF
DIP SW 36	Change prohibited	OFF
DIP SW 37	Change prohibited	OFF
DIP SW 38	Change prohibited	OFF
DIP SW 39	Change prohibited	OFF

Table 1-5-9

ERROR RATE MONITOR screen

By setting "DIP SW 0" to "1", error rate and each CPU port information display screen will appear on the LCD monitor, View finder and monitor.

The values which are pointed by arrow are the error rate value. Error rate of CH-1 shown in upper row, and CH-2 shown in lower row, and these value are indicated total AUDIO/VIDEO error rate.

When the error rate increase , the warning message "HEAD CLEANING REQUIRED" is displayed. And this message is indicate when the error rate value is over 4,500 (one-channel AUDIO/VIDEO total) for 7 seconds consecutively.

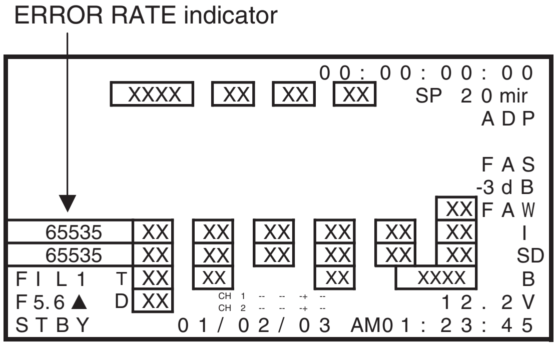
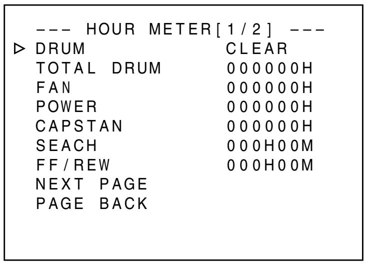


Fig. 1-5-9 (7)

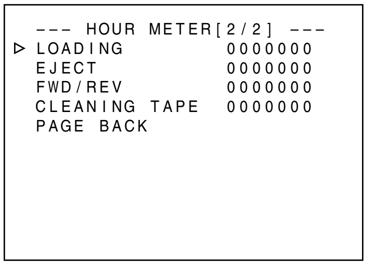
1.5.10 HOUR METER

In a service menu, place the cursor on “HOUR METER ” and push the SHUTTER dial to display the HOUR METER menu.



```
   --- HOUR METER[1/2] ---
▷ DRUM              CLEAR
  TOTAL DRUM        000000H
  FAN               000000H
  POWER             000000H
  CAPSTAN           000000H
  SEACH             000H00M
  FF/REW            000H00M
  NEXT PAGE
  PAGE BACK
```

Fig. 1-5-10 (1)



```
   --- HOUR METER[2/2] ---
▷ LOADING           0000000
  EJECT             0000000
  FWD/REV           0000000
  CLEANING TAPE     0000000
  PAGE BACK
```

Fig. 1-5-10 (2)

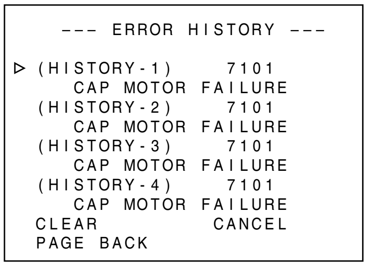
Operation ways are almost same as CAMERA 1 menu, so please refer it.

Item	Parameter
DRUM	000000 Displays the drum hour meter(maintenance for drum)
	CLEAR Resets the drum hour meter.
TOTAL DRUM	000000 Displays the total hour meter.
	CLEAR Resets the total drum hour meter. (This does not work unless the special setting)
FAN	000000 Displays the fan hour meter.
	CLEAR Resets the fan hour meter.
POWER	000000 Displays the power hour meter.
	CLEAR Resets the power hour meter.
CAPSTAN	000000 Displays the capstan hour meter.
	CLEAR Resets the capstan hour meter.
SEARCH	000000 Displays the search hour meter.
	CLEAR Resets the search hour meter.
FF/REV	000000 Displays the FF/REW hour meter.
	CLEAR Resets the FF/REW hour meter.
LOADING	000000 Displays the loading count.
	CLEAR Resets the loading count.
EJECT	000000 Displays the eject count.
	CLEAR Resets the eject count.
FWD/REV	000000 Displays the forward/reverse switching count.
	CLEAR Resets the forward/reverse switching count.
CLEANING TAPE	000000 Displays the cleaning tape working count.
	CLEAR Resets the cleaning tape working count.

Table 1-5-10

1.5.11 ERROR HISTORY

In a service menu, place the cursor on “ERROR HISTORY ” and push the SHUTTER dial to display the ERROR HISTORY menu.



```
     --- ERROR HISTORY ---

▷ (HISTORY-1)     7101
     CAP MOTOR FAILURE
  (HISTORY-2)     7101
     CAP MOTOR FAILURE
  (HISTORY-3)     7101
     CAP MOTOR FAILURE
  (HISTORY-4)     7101
     CAP MOTOR FAILURE
  CLEAR           CANCEL
  PAGE BACK
```

Fig. 1-5-11

(1) Rotate the SHUTTER dial to move the cursor onto the item to show details.

(2) Push the SHUTTER dial so that the details of ERROR HISTORY is shown.

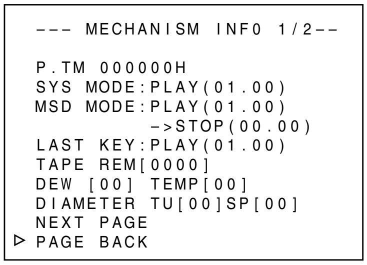
(3) Rotate the SHUTTER dial to move cursor onto the “CLEAR”, push the SHUTTER dial, then ERROR HISTORY will be deleted.

Note :

ERROR HISTORY was stored from “HISTORY-1” box to “HISTORY-4”box. Latest error was stored “HISTORY-4” box, and if there will be occur another error then latest error history will be rewrite on “HISTORY-4”. From “HISTORY-1” to “HISTORY-3” will not rewrite, except to “CLEAR” operation.

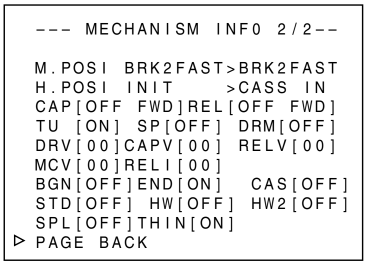
1.5.12 Detail indication of ERROR HISTORY

In a ERROR HISTORY display, place a cursor onto the item and push SHUTTER dial, then detail display (MECHANISM INFO) picture will be shown.
MECHANISM INFO has 2 pages.



```
  --- MECHANISM INF0 1/2--

  P.TM 000000H
  SYS MODE:PLAY(01.00)
  MSD MODE:PLAY(01.00)
          ->STOP(00.00)
  LAST KEY:PLAY(01.00)
  TAPE REM[0000]
  DEW [00] TEMP[00]
  DIAMETER TU[00]SP[00]
  NEXT PAGE
▷ PAGE BACK
```

Fig. 1-5-12 (1)



```
  --- MECHANISM INF0 2/2--

  M.POSI BRK2FAST>BRK2FAST
  H.POSI INIT     >CASS IN
  CAP[OFF FWD]REL[OFF FWD]
  TU [ON] SP[OFF] DRM[OFF]
  DRV[00]CAPV[00] RELV[00]
  MCV[00]RELI[00]
  BGN[OFF]END[ON]  CAS[OFF]
  STD[OFF] HW[OFF] HW2[OFF]
  SPL[OFF]THIN[ON]
▷ PAGE BACK
```

Fig. 1-5-12 (2)

Item	Content	Displayed Content
P.TM	POWER HOUR METER	Power hour meter is displayed.
SYS MODE	SYSCON CPU mode when error occurred PLAY (03, 00) MODE DATA Parameter	SFF/SREW parameter is speed display. (Refer to Table 1-9-11 (2) Speed parameter) Parameters of other modes are irrelevant. EJECT (01) : Eject STOP (02) : Stop PLAY (03) : Play REC (13) : Rec STL (04) : Still RECP (14) : Rec Pause FF (05) : FF DVRC (15) : DV Rec REW (06) : Rew DVRP (16) : DV Rec Pause SFF (07) : Search Fwd POFF (1A) : Power Off SREW (08) : Search Rev NDEF (1F) : During initial operation SFF/SREW parameter is speed display (See Table 1-9-11 (2))
MSD MODE	MSD CPU mode and target mode when error occurred PLAY (01, 00) MODE DATA Parameter	
LAST KEY	Final Key code when error occurred PLAY (E7, 01) MODE DATA Parameter	Other parameters are 01: ON, 00: OFF REC (E0) : Rec SFF (EB) : Search Fwd RECP (E1) : Rec Pause SREW (EC) : Search Rev DVRP (E2) : DV Rec Pause STOP (F0) : Stop ADUB (E5) : Audio Dub EJECT (F1) : Eject ADBP (E6) : Audio Dub Pause HWUP (F2) : Housing Up PLAY (E7) : Play HWDN (F3) : Housing Down STL (E8) : Still POFF (F4) : Power Off FF (E9) : FF DVRC (F5) : DV Rec REW (EA) : Rew PON (FA) : Power on
TAPE REM	TAPE REMAIN	Displays tape remaining in minutes ([FFFF] : not detected)
DEW	DEW sensor A/D intake value	DEW display at over [48]
TEMP	Temperature sensor A/D intake value The value “49” [5°C] is threshold of detecting low temperture. The value “DC” [60°C] is the threshold of displaying “OVER HEATING” message.	Temperature is displayed in hexadecimal value. -10°C ➡ [22] 20°C ➡ [7C] 50°C ➡ [CC] - 5°C ➡ [2D] 25°C ➡ [8C] 55°C ➡ [D4] 0°C ➡ [3A] 30°C ➡ [9C] 60°C ➡ [DC] 5°C ➡ [49] 35°C ➡ [AA] “OVER HEATING” message 10°C ➡ [59] 40°C ➡ [B7] 65°C ➡ [E1] 15°C ➡ [6A] 45°C ➡ [C2] 70°C ➡ [E6]
DIAMETER	Displays wound tape diameter (Take-up, Supply)	[00]—[FF] : 0mm-82mm (Diameter) ([00] is non-detected)
M. POSI	Mechanism position and target mechanism position	[2EJ], [EJ], [EJ2CAIN], [CAIN], [CAIN2HLD], [HLD], [HLD2REV], [REV], [REV2FWD], [FWD], [FWD2STP], [STP], [STP2], [CLNOFF], [INIT]
CAP	Capstan status	[ON] : Rotate [FWD/REV]: Direction display [OFF] : Stop
REL	Reel status	[ON] : Rotate [FWD/REV]: Direction display [OFF] : Stop
DRM	Drum status	[ON] : Rotate [OFF] : Stop
DIR	Direction of tape running (Direction of target)	[FWD/REV]: Direction display
DRV	Drum control voltage	[00-FF] : 0—3V
CAPV	Capstan control voltage	[00-FF] : 0—3V
RELV	Reel control torque value	[00-FF] : 0—3A

Item	Content	Displayed Content
MCV/SPD	Loading/cassette housing control voltage (when error code 4xxx and error code 3xxx is displayed.)	[00-FF] : 0—8V (Displays mode motor control voltage during error code 3xxx) (Displays cassette motor control voltage during error code 4xxx)
	Tape speed (When the code excepting error code 4xxx and error code 3xxx is displayed.)	[00-FA] : 0—25X (FF is displayed when the speed is faster than this.) “Tape speed” is a function to convert the hexadecimal value into a decimal value, and no speed parameter of the tape. (ex. FAh = 250 → The speed is 25.0X.)
RELI	Reel current (Cassette housing motor current only during housing-related warning)	[00-FF] : 0—1.2A
BGN	Begin sensor	[ON] : Leader tape detected [OFF] : Magnetic tape detected
END	End sensor	[ON] : Trailer tape detected [OFF] : Magnetic tape detected
CAS	Cassette SW status	[ON] : No cassette [OFF] : Cassette detected
THIN	Thin tape detection	[ON] : THIN [OFF] : NORMAL

Table 1-5-12 (1) MECHANISM INFO content

Parameter	Speed
BD	+ 8.5
A9	+ 5.5
91	+ 2.5
80	+ 1
81	− 1.5
91	− 2.5
A9	− 4.5
BD	− 6.5

Table 1.5.12 (2) HDV Speed parameter

Parameter	Speed
00	x 0
1F	x 0.03
40	x 0.10
53	x 0.20
61	x 0.30
6D	x 0.50
7A	x 0.80
7B	x 0.84
7D	x 0.90
7F	x 0.96
80	x 1.00
81	x 1.04
82	x 1.08
83	x 1.11
84	x 1.12
85	x 1.16
91	x 2.00
A9	x 5.00
BD	x 9.00
C0	x 10.0

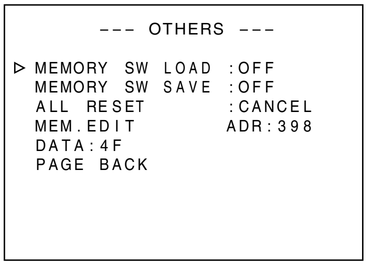
Table 1-5-12 (3) DV Speed parameter

Error code	Display	Content of occurrence	Method of detection	Detected signal
0201	CONDENSATION ON DRUM	DEW detected	If DEW sensor detects condensation	IC71 (MSD) –detects voltage of pin E16
3200	LOADING FAILURE	Does not load	If mechanism position does not move in loading direction within 5 seconds	IC71 (MSD) –detects output of pin F14, rotary encoder
3300	UNLOADING FAILURE	Does not unload	If mechanism position does not move in unloading direction within 5 seconds	IC71 (MSD) –detects output of pin F14, rotary encoder
	No display	Does not intake	If intake is not completed within 5 seconds (Ejects without warning)	IC71 (MSD) –pin M9, CASSETTE SW is not detected within 5 seconds
4100	CASSETTE EJECT FAILURE	Does not eject	If eject is not completed within 5 seconds	IC71 (MSD) –pin P9, HOUSING SW is not detected within 5 seconds
5605	DEFECTIVE TAPE	Tape abnormality during intake	If begin or end side sensor is ON after intake	IC71 (MSD) –pin E15, START sensor and pin E14, END sensor are both detected
5606	DEFECTIVE TAPE	Tape tear during unloading	If reel FG is excessive during unloading	IC71 (MSD) –pin R14, TU REEL FG is detected
5607	DEFECTIVE TAPE	Tape tear during loading	If reel FG is insufficient during loading	IC71 (MSD) –pin R14, TU REEL FG is detected
5608	DEFECTIVE TAPE	Tape tear on the loading side	If only supply side reel does not rotate during FWD/REV	IC71 (MSD) –pin R13, SUP REEL FG is not detected
5609	DEFECTIVE TAPE	Tape tear during slack takeup	If tape slack takeup is not completed within 10 seconds	IC71 (MSD) –pin R14, TU REEL FG and pin R13, SUP REEL FG are both detected
5702	TAPE END DET. ERROR	End sensor abnormality	If trailer tape sending is not completed within 3 seconds	IC71 (MSD) –pin E14, END sensor is detected for over 3 seconds
5802	TAPE BEGIN DET. ERROR	Begin sensor abnormality	If leader tape sending is not completed within 3 seconds	IC71 (MSD) –pin E15, START sensor is detected for over 3 seconds
7001	DRUM MOTOR FAILURE	Drum motor does not rotate	If drum motor does not rotate for over 4 seconds	IC71 (MSD) –pin T14, DRUM FG is not detected for over 4 seconds
7101	CAP MOTOR FAILURE	Capstan motor does not rotate	If capstan motor does not rotate for over 2 seconds	IC71 (MSD) –pin T13, CAP FG is not detected for over 2 seconds
7202	SUPPLY REEL FAILURE	SUP reel does not rotate	If SUP reel does not rotate for over 3 seconds	IC71 (MSD) –pin R13, SUP REEL FG is not detected for over 3 seconds
7203	SUPPLY REEL FAILURE	SUP side tape slack	If only SUP reel does not rotate during REV	IC71 (MSD) –pin R13, SUP REEL FG is not detected
7302	TAKE UP REEL FAILURE	TU reel does not rotate	If TU reel does not rotate for over 3 seconds	IC71 (MSD) –pin R14, TU REEL FG is not detected for over 3 seconds
7303	TAKE UP REEL FAILURE	TU side tape slack	If only TU reel does not rotate during FWD	IC71 (MSD) –pin R14, TU REEL FG is not detected
7305	TAKE UP REEL FAILURE	Tape slack during unloading	If TU reel FG is insufficient during unloading	IC71 (MSD) –pin R14, TU REEL sensor is detected

Table 1-5-12 (4) Error Code Contents

1.5.13 OTHERS menu

In a service menu, place the cursor on “OTHERS” and push the SHUTTER dial to display the OTHERS menu.



```
--- OTHERS ---

▷ MEMORY SW LOAD :OFF
  MEMORY SW SAVE :OFF
  ALL RESET      :CANCEL
  MEM.EDIT        ADR:398
  DATA:4F
  PAGE BACK
```

Fig. 1-5-13

Operation ways are almost same as CAMERA1 MENU, so please refer it.

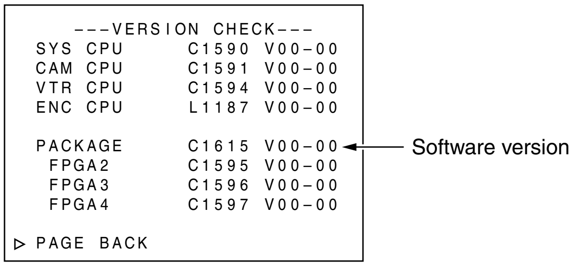
Item	Parameter	
MEMORY SW LOAD	OFF	Standard setting
	START	Menu SW information is loaded from a store area.
MEMORY SW SAVE	OFF	Standard setting
	START	Menu SW information is saved to a store area.
ALL RESET	CANCEL	Standard setting
	EXECUTE	Resets all EEP-ROM data to default settings except adjustment data, hour meter data, and IEEE1394 ID data. Default settings at time of shipment differ by market region. I: for Japan, U: for USA, E: for EU, EC: for China
MEM.EDIT	Contents of the EEP-ROM can be edited directly ADR: Address (0x000-0x7DF) display DATA: Display of data embedded in address shown by ADR **Operation procedure** 1. Rotate the SHUTTER dial to move the cursor to MEM.EDIT. 2. Push the SHUTTER dial to blink the “ADR” parameter. 3. Then rotate the SHUTTER dial to adjust the specified value. 4. Next, push the SHUTTER dial to blink the DATA parameter. 5. Rotate the SHUTTER dial to adjust the specified value. 6. Finally, push the SHUTTER dial to store the data. **(NOTE)** Data that is crucial for the system is stored in the EEP-ROM, and making unadvised changes to it can cause the unit to stop operating correctly. Please do not use anything other than the IEEE1394 ID setting.	

(☐ is default setting when shipped from factory)

Table 1-5-13 OTHERS Menu Setting Items List

1.5.14 CPU version menu

Displays version of SYSCON CPU, Camera CPU , VTR CPU, ENC CPU, PACKAGE, FPGA2, FPGA3 and FPGA4.



```
     ---VERSION CHECK---
 SYS CPU        C1590 V00-00
 CAM CPU        C1591 V00-00
 VTR CPU        C1594 V00-00
 ENC CPU        L1187 V00-00

 PACKAGE        C1615 V00-00
  FPGA2         C1595 V00-00
  FPGA3         C1596 V00-00
  FPGA4         C1597 V00-00

▷ PAGE BACK
```

Software version

Fig. 1-5-14 CPU Version

1.5.15 EEP-ROM

(1) EEP-ROM and maintenance data

GY-HD100 is equipped with three EEP-ROMS for the purpose of data maintenance, and their contents are as per the following list. When the circuit board or EEP-ROM is replaced, there will be no data in the EEP-ROM. When the unit is powered up, and the SYSCON CPU recognizes that there is no data in the EEP-ROM, it automatically writes initial data into the EEP-ROM to initialize it. The memory data shown in Table 1-5-15 will all be reset back to default settings, so it will be necessary to perform necessary adjustments and settings again.

EEP-ROM	Board name	Memory data content
IC70	MAIN board (MSD CPU)	• Adjusted data (DVC section) • IEEE1394 ID data • HOUR METER data
IC57	MAIN board (Camera CPU)	• Blemish data
IC61	MIF board (SYSCON CPU)	• Adjusted data (Camera section) • User menu and Service menu settings data • ERROR HISTORY

Table 1-5-15 EEP-ROM Memory Data Content

(2) IEEE1394 ID setting method

IEEE1394 equipped units have an ID, as defined by the IEEE1394 standard, stored in the internal EEP-ROM (IC 70. At the time of production, the ID numbers allotted to each individual unit are written into the unit's memory, and a sticker bearing the ID is affixed inside the unit. When the EEP-ROM or MAIN circuit board is replaced, the ID needs to be set again.

Procedure for setting IEEE1394 ID

The ID is an 8 digit, hexadecimal code, with 1 high-end Byte being the model code, and 3 low-end Bytes being unique to the unit. The model code is automatically initialized, so only the lower 3 Bytes of unique code need to be set manually. Go from Service Menu → OTHERS Menu → MEM. EDIT (Memory Edit) to select the address in the ID data section and make the setting directly. The 3 low-end Byte address is as follows. Make the setting while confirming the ID printed on the label (GY-HD100U/E ID: 4Fxxxxxx, GY-HD101E ID: 4Exxxxxx) pasted on the inside of the GY-HD100 (See Fig. 1-5-15).

IEEE1394 ID data : 4F xx xx xx (Indicates on the label of GY-HD100 inside.)
⇩ ⇩ ⇩
MEMORY Address number "391" "392" "393" (Each 1 Byte ID data are stored for every one Memory Address number.)

Setting procedure

(1) Rotate the SHUTTER dial to move the cursor to MEM. EDIT.
(2) Push the SHUTTER dial to make the ADR parameter blink.
(3) Select ADR parameter "391".
(4) Push the SHUTTER dial to make the DATA parameter blink.
(5) Rotate the SHUTTER dial to set the ID data for ADR = "391".
(6) Push the SHUTTER dial to confirm the DATA parameter.
(7) In the same manner, select ADR parameter "392" and "393" to set the ID data.

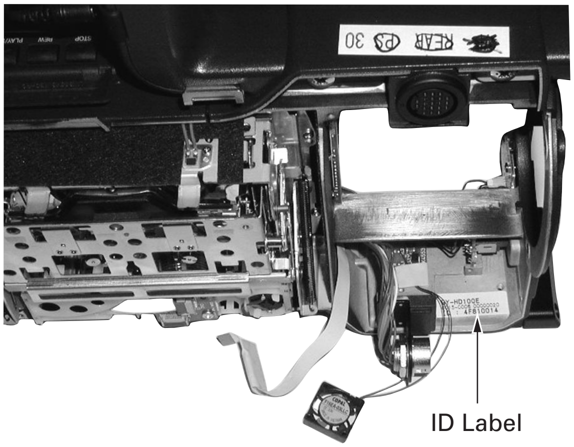


Fig. 1-5-15 ID Label Attachment Position

1.6 HOW TO UPDATE FIRMWARE

Note :

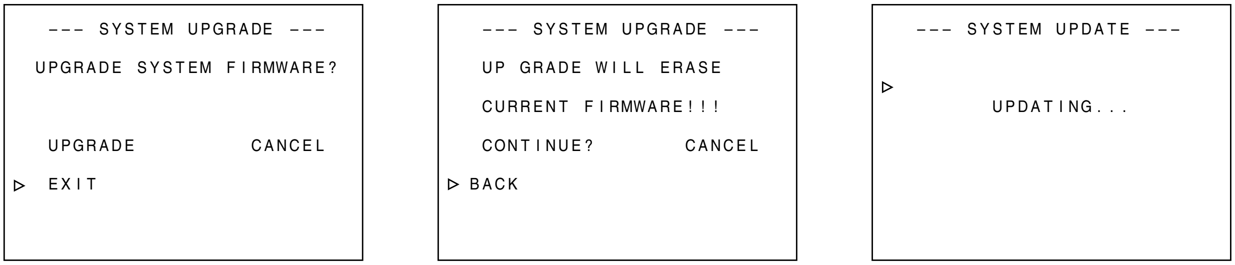
- When replacing MIF board or MAIN board, firmware update is essential.
- Do not turn the power off during the update, otherwise CPU may be destroyed and replacement of CPU or board will be required.
- Under the battery operation firmware update can not be allowed, use the AC adapter.
- When update is failed audio AUTO LED's are flashing alternately. In this case try again after removing SD memory card.
- Remove the IEEE1394 cable, otherwise it may cause some troubles on GY-HD100.
- Do not format the SD memory card by PC.
  The SD memory card formatted by PC will not work correctly due to wrong formatting. In this case format the SD memory card on GY-HD100.
  You can also format the SD memory card using the general digital still camera equipped SD memory card slot, or formatting software supplied from SD memory card manufacturer such as Pnasonic.

1.6.1 Preparation (Copy firmware to SD memory card)

Note: 32MB - 512 MB of Panasonic SD memory card is recommended.
(1) Download the update file from JS-NET and unzip it to a PC.
(2) Insert the SD memory card to the PC and confirm that no file is in the SD memory card. If there are some files, delete them.
(3) Copy the unzipped update file(s) to the SD memory card.

1.6.2 Update procedure

(1) Eject and take out the cassette if loaded, and close the cassette cover.
(2) While pressing USER2 and USER3 buttons, turn on the power. Both HDV and DV LED will turn on a light.
(3) Insert the SD memory card to the card slot of GY-HD100.
(4) Rotate the SHUTTER dial, move the cursor to UPGRADE and press SHUTTER dial.
(5) Rotate the SHUTTER dial, select EXECUTE and press SHUTTER dial.
(6) Rotate the SHUTTER dial, move the cursor to CONTINUE? and press SHUTTER dial.
(7) Rotate the SHUTTER dial, select EXECUTE and press SHUTTER dial.



```
   --- SYSTEM UPGRADE ---
 UPGRADE SYSTEM FIRMWARE?

  UPGRADE          CANCEL
▷ EXIT
```

```
   --- SYSTEM UPGRADE ---
  UP GRADE WILL ERASE
  CURRENT FIRMWARE!!!
  CONTINUE?        CANCEL
▷ BACK
```

```
   --- SYSTEM UPDATE ---

▷
        UPDATING...
```

Fig.1.6.2 SYSTEM UPDATE Menu Screen

(8) When update is completed, audio AUTO LED's of AUDIO CH-1 and CH-2 are blinking slowly. It will take about seven minutes to complete.
(9) Remove the SD memory card, then GY-HD100 will reboot automatically.
(10) Turn off the power and turn on again.
(11) Enter the Service Menu to check CPU VERSION.

SECTION 2
MECHANICAL ADJUSTMENTS

2.1 BEFORE ADJUSTMENTS

2.1.1 Precautions

1) Be sure to apply a screw securing torque when attaching a part.
   The securing torque should be 0.04 N-m (0.4 kgf-cm) unless otherwise specified.
2) Always unplug the power cord of the set before attaching, removing or soldering a part.
3) When unplugging a connector, do not pull the wire but grasp the connector body.
4) Do not make an adjustment or rotate a potentiometer blindly while the source of trouble is not identified.
5) Before adjusting electrical circuitry, be sure to wait for more than 10 minutes after turning the power on.

2.1.2 Measuring instruments required for adjustments

Instrument	Condition
Oscilloscope	Calibrated instrument with measuring bandwidth of 100 MHz or more.

Table 2-1-1

2.1.3 Equipment required for adjustments

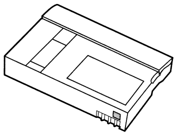
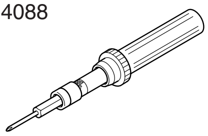
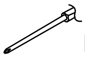
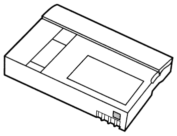
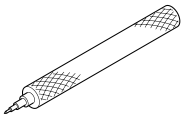
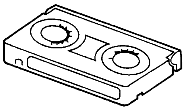
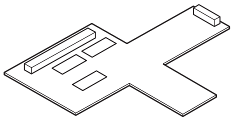
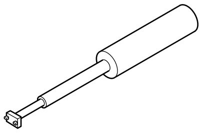
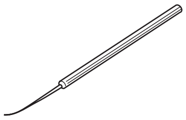
1	Alignment tape	5	Torque screwdriver
	MC-1 (NTSC) MC-2 (PAL) 		YTU94088  YTU94088-003  Replaceable bit (long type)
2	DV tape	6	Slit washer attaching tool
	For use in self-recording/playback. (M-DV 63PRO BU) 		YTU94121A 
3	Cassette torque meter	7	Connector board (REWRITE PWB)
	YTU94150A (or YTU94151A) 		CK453800C 
4	Guide screwdriver	8	Chip IC replacement tool
	YTU94085 		PTS40844-2 

Table 2-1-2

2.2 BASICS OF MECHANISM DISASSAMBLY/ASSEMBLY

2.2.1 Assembly mode

The disassembly and assembly of the mechanism can be done in the ASSEMBLY mode (see Table 2-2-1).
The ASSEMBLY mode is provided in the intermediate position between C-IN and Harf LOAD. As the C-IN (Cassette IN) mode is usually set when a cassette tape is ejected, the ASSEMBLY mode should be entered after entering the C-IN mode.

There are 2 ways to set to ASSEMBLY mode as shown below:

1) Apply DC 3 V to the motor.
2) Remove the motor from the bracket (Gear cover) and turn the wheel gear 2 using screwdriver.

As shown in Fig. 2-2-1, the ASSEMBLY mode position refers to where the hole position of 7 cm component matches the hole position of the main deck.

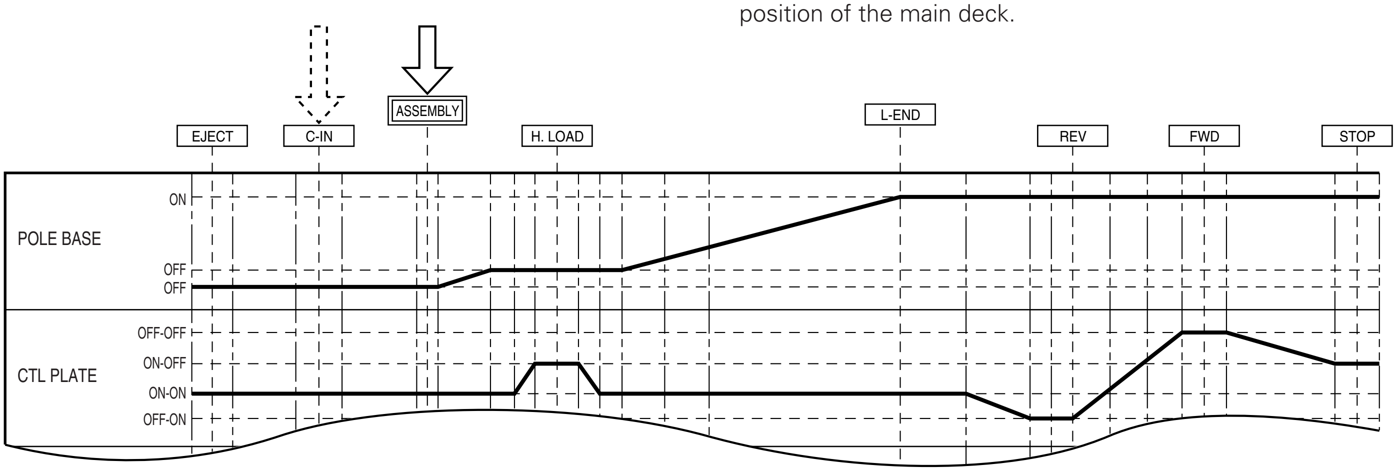
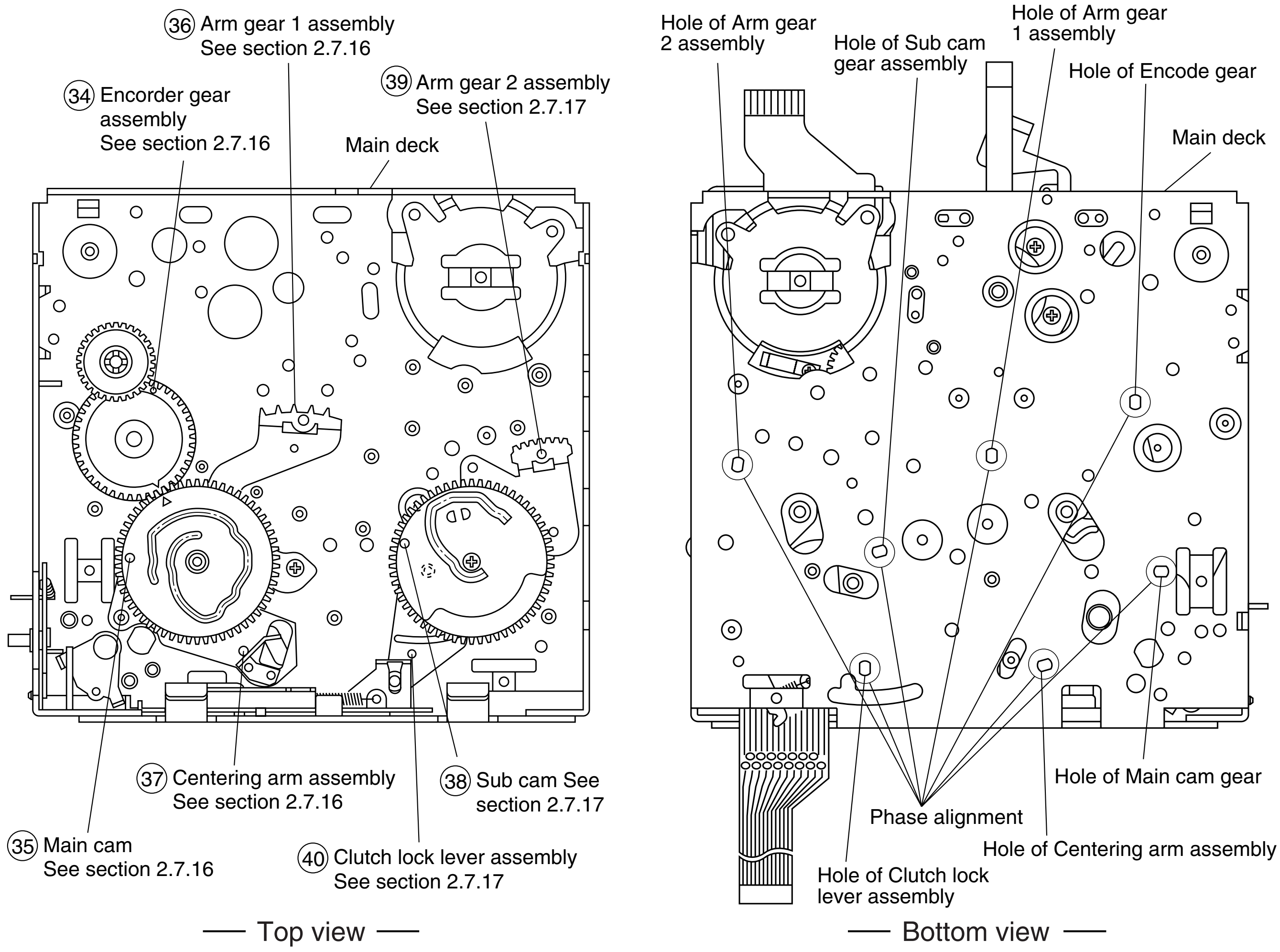


Table 2-2-1


㊱ Arm gear 1 assembly
See section 2.7.16
㉞ Encorder gear assembly
See section 2.7.16
㊴ Arm gear 2 assembly
See section 2.7.17
Main deck
㊲ Centering arm assembly
See section 2.7.16
㊳ Sub cam See section 2.7.17
㉟ Main cam
See section 2.7.16
㊵ Clutch lock lever assembly
See section 2.7.17
Hole of Arm gear 2 assembly
Hole of Sub cam gear assembly
Hole of Arm gear 1 assembly
Hole of Encode gear
Main deck
Hole of Main cam gear
Phase alignment
Hole of Centering arm assembly
Hole of Clutch lock lever assembly

— Top view —

— Bottom view —

Fig. 2-2-1

2.3 MECHANISM TIMING CHART

See following table (Table 2-3-1).

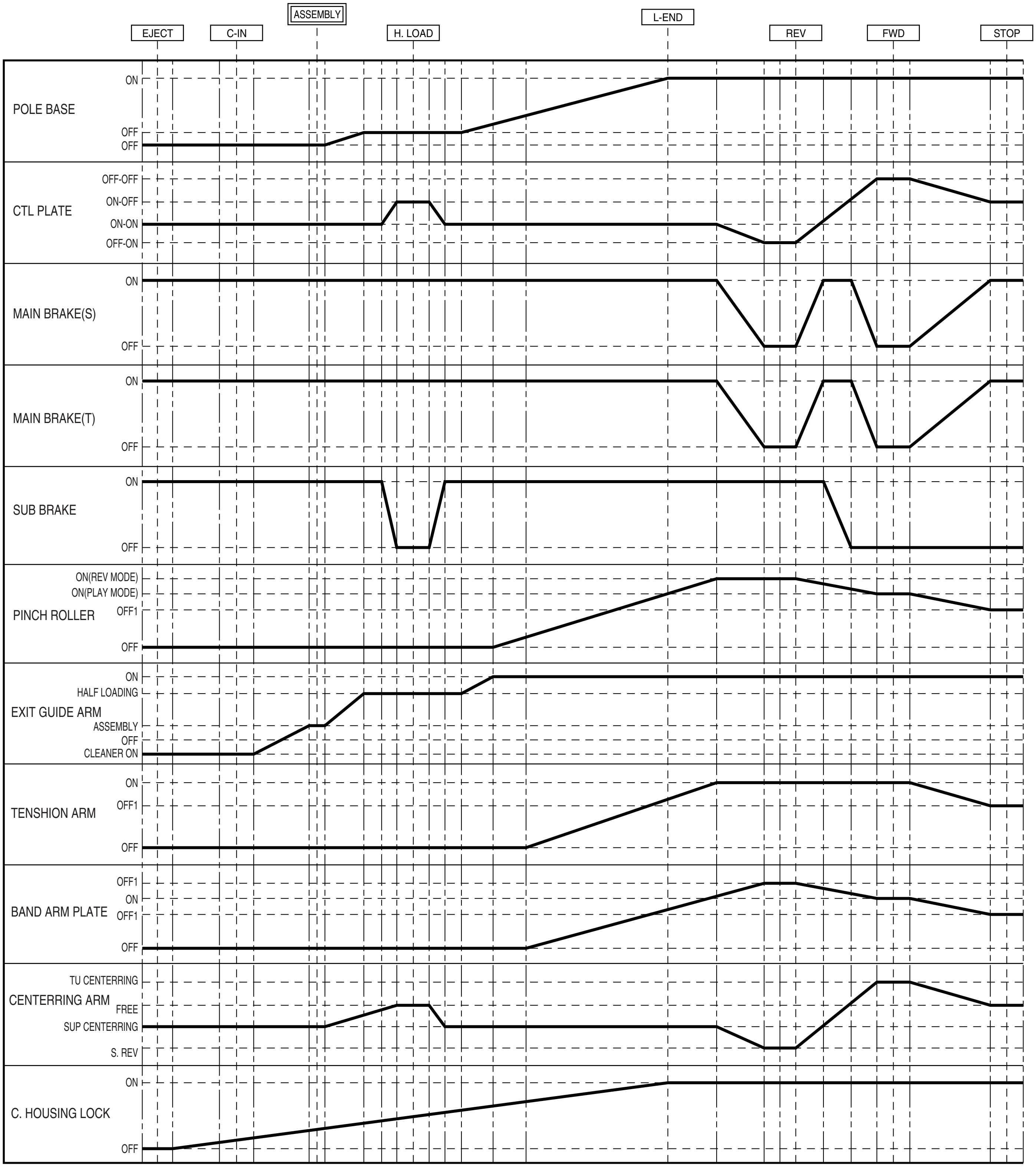


Table 2-3-1

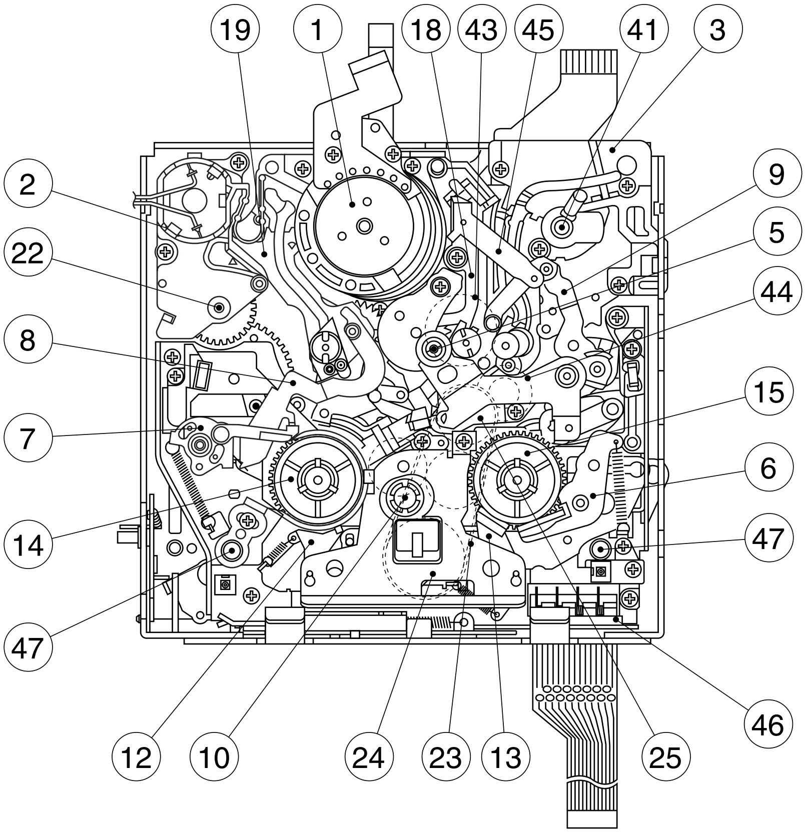
2.4 MAINTENANCE AND INSPECTION OF MAJOR PARTS

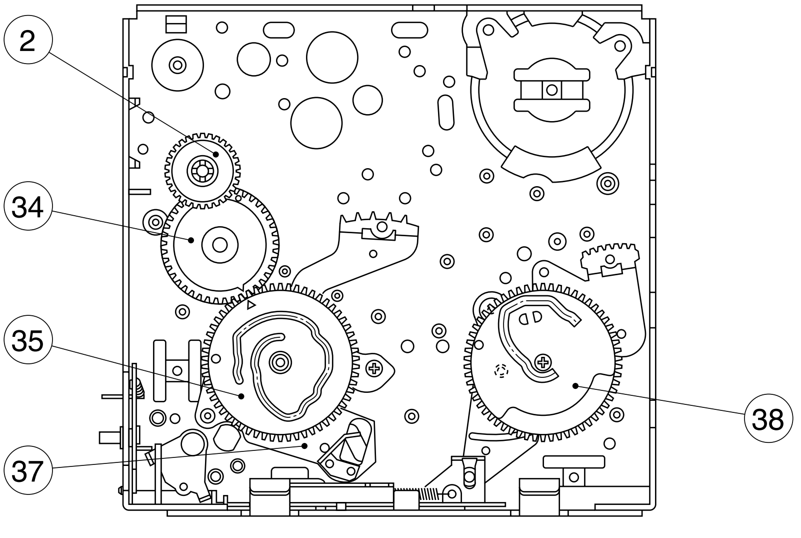
Periodical inspection and maintenance are requisite to maintain the initial performance and reliability of the product. Table 2-4-1 (Maintenance & Inspection List) has been compiled assuming standard operating conditions, and the specifications in the table are greatly variable depending on the actual operating environment and conditions. Remember that, if the maintenance and inspection are not enforced properly, the operating hours of the product will not only reduce considerably but other unfavorable influences may produce.

Rubber parts may deform or degrade after long period of storage even if they are not used in this period.

The service life of the drum is variable depending on the tape used and operating environment.

2.4.1 Layout of major parts





2.4.2 Maintenance and inspection list

1) The 6000 H maintenance consists of a replacement of the entire mechanism assembly.
2) When mounting the capstan motor on the main deck, control of the verticality is required. Therefore, when the capstan motor reaches the end of its service life, the entire mechanism assembly should be replaced.

	Part Name	Symbol No.	Operating Hours (DRUM Hour Meter)												Ref.
			500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	
1	Tape transport parts		★	★	★	★	★	★	★	★	★	★	★		—
2	② Gear cover assembly	M 8 46	★	○★	★	●	★	○★	★	●	★	○★	★		2.7.14
3	⑧ Tension arm assembly	M 8 40	★	○★	★	●	★	○★	★	●	★	○★	★		2.7.8
4	⑲ Guide rail (S) assembly	M 8 22	★	○★	★	●	★	○★	★	●	★	○★	★		2.7.12
5	⑱ Guide rail (T) assembly	M 8 23	★	○★	★	●	★	○★	★	●	★	○★	★		2.7.12
6	③ Middle catcher assembly	M 8 24	★	○★	★	●	★	○★	★	●	★	○★	★		2.7.5
7	㊶ Capstan shaft	M 8 4	★	★	★	★	★	★	★	★	★	★	★		—
8	⑤ Pinch roller arm assembly	M 8 44	★	○★	★	●	★	○★	★	●	★	○★	★		2.7.3
9	⑨ Exit guide arm assembly	M 8 43	★	○★	★	●	★	○★	★	●	★	○★	★		2.7.4
10	① Drum assembly	M 8 50	○★	○★	★	●	★	○★	○★	●	★	○★	○★		2.7.2
11	㊶ Capstan motor	M 8 4						○	○	○	○	○	○	●	—
12	㉕ Reel drive pulley assembly	M 8 33		○△		●△		○△		●△		○△			2.7.15
13	㊸ R.drive gear 1	M 8 47		○△		●△		○△		●△		○△			2.7.15
14	㊹ R.drive gear 2	M 8 48		○△		●△		○△		●△		○△			2.7.15
15	㉔ Center gear assembly	M 8 34		○△		●△		○△		●△		○△			2.7.14
16	㉓ Timing belt	M 8 11		○		●		○		●		○			2.7.14
18	⑥ Sub-brake assembly	M 8 36		○		●		○		●		○			2.7.10
19	⑫ Main brake (S) assembly	M 8 38		○		○		○		○		○			2.7.10
20	⑬ Main brake (T) assembly	M 8 37		○		●		○		●		○			2.7.10
21	⑭ ⑮ Reel disk assemblies	M 8 39		○		●△		○		●△		○			2.7.11
22	⑦ Band arm plate assembly	M 8 41		○		●		○		●		○			2.7.8
23	⑩ Swing arm assembly	M 8 42		○		●		○		●		○			2.7.7
24	㉒ Wheel gear-2	M 8 3		○		●		○		●		○			2.7.2
25	㉞ Encoder gear	M 8 21		○		●		○		●		○			2.7.18
26	㊲ Centering arm assembly	M 8 26		○		●		○		●		○			2.7.18
27	㉟ Min cam	M 8 8		○		●		○		●		○			2.7.18
28	㊳ Sub cam	M 8 9		○		●		○		●		○			2.7.19
29	㊺ Cleaner arm assembly	M 8 43	○	●	○	●	○	●	○	●	○	●	○		2.7.4
30	㊼ Cassette guide pin (Sub deck)	M 8 35	★	★	★	★	★	★	★	★	★	★	★		—
31	㊻ MIC contact (Sub deck)	M 8 35	★	★	★	★	★	★	★	★	★	★	★		—
32	Mechanism assembly (including cassette housing assembly)	M 8 1												●	—
33	FAN motor	M 2 43												●	—

★: Clean with ethanol. ○: Check and replace if required. ●: Replace. △: Oil the shaft.
After replacing a part, apply lubricant to the required points.

Table 2-4-1

2.4.3 Cleaning

The mechanism incorporates a video head cleaner that is effective for the removal of magnetic dust, etc. However, tape lubricant adhering to the head surface produces a spacing loss, it is recommended to polish the heads using a head cleaning tape. When the video heads become soiled an increase in the error rate results. Eventually, when the error rate increase is too much to be corrected by the error correction circuit, block noise will be observed in the picture.

1) Cleaning the video heads
   Use the DVC cleaning cassette for cleaning the video heads. Always be sure to use the cleaning cassette, Part No. M-DV12CLAUX.
   The video heads should be cleaned periodically. Moreover, care should be taken about the operating environment as the tape running time standard varies accordingly. Please refer to "Precautions for Use of Head Cleaning Tape" in the instructions.

Caution

- **As the DVC cleaning tape has a much higher lapping effect than VHS cleaning tapes, frequent use of the DVC cleaning tape will reduce the head service life. Do not play the DVC cleaning tape for more than 10 seconds per run or for more than 4 times per cleaning session.**
- **The cleaning tape can be used effectively for up to about 4 passes. It cannot improve the cleaning effect even if it is run for more than 4 times.**

2) Cleaning the upper/lower drums
   Use a cleaning cloth or high-quality paper sheet to clean the upper drum. Moisten the cloth or paper sheet with a small amount of ethyl alcohol, apply it lightly against the upper drum while turning it by hand.
   After this operation, wipe it with a dry cloth or paper sheet without alcohol. Be sure to play the cleaning tape to its end. The lower drum tends to gather magnetic dust, etc. in its lead section, and linearity cannot be achieved if this becomes excessively dirty. The tape inlet and outlet areas are contaminated particularly easily, causing trouble such as dropout in FM signal reproduction, block noise on one side of a monitored picture, absence of audio output or incapability of time code readout. To clean the lead section, use a toothpick and rub lightly along the lead section. Be careful not to scratch the video head when this is done.

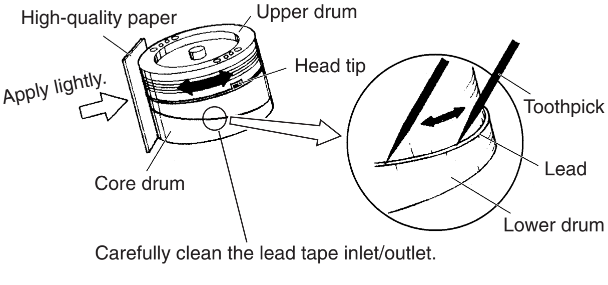


Fig. 2-4-1

3) Cleaning the tape transport system
   Moisten the tip of a cotton swab with alcohol and use it to clean the tape transport parts. Take special care of the TU/SUP guide roller flanges and the rear sides of the inclined poles, as these are the parts that most frequently collect magnetic dust.

Caution

Do not wipe the capstan shafts using alcohol. Otherwise, the oil in the bearings may be diluted by the alcohol and become attached to the tape.

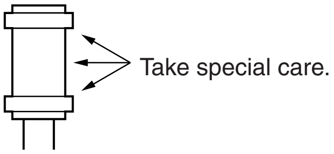


Fig. 2-4-2 Guide Roller

2.4.4 Oiling and greasing

Table 2-4-2 shows the oil and greases used with the set.

Classification	Name	Part No.
Oil	Cosmo Hydro HV100	YTU94027
Grease	Maltemp SH-P	KYODO-SH-P
	Hanal	RX-410R

Table 2-4-2

1) Oiling should be performed periodically. Oil the shafts by referring to the maintenance table.
2) After replacing a part, grease the required points. For the parts to be greased see the exploded diagram in chapter 5, "DISASSEMBLY DRAWINGS AND PARTS LIST".
3) As Hanal separates over time, be sure to mix it (shake) well before use.
4) Take care not to leave grease or oil on the tape transport parts which come into contact with the tape or on the brake pads.
5) Take care not to apply too much oil or grease. The standard oiling quantity is one drop and the standard greasing quantity is the quantity with which the grease does not overflow.

2.5 PERIODICAL MAINTENANCE

Perform maintenance at the correct times in accordance with the maintenance table.
Fig. 2-5-1 shows the flow chart of periodical maintenance procedures at different operating hours.

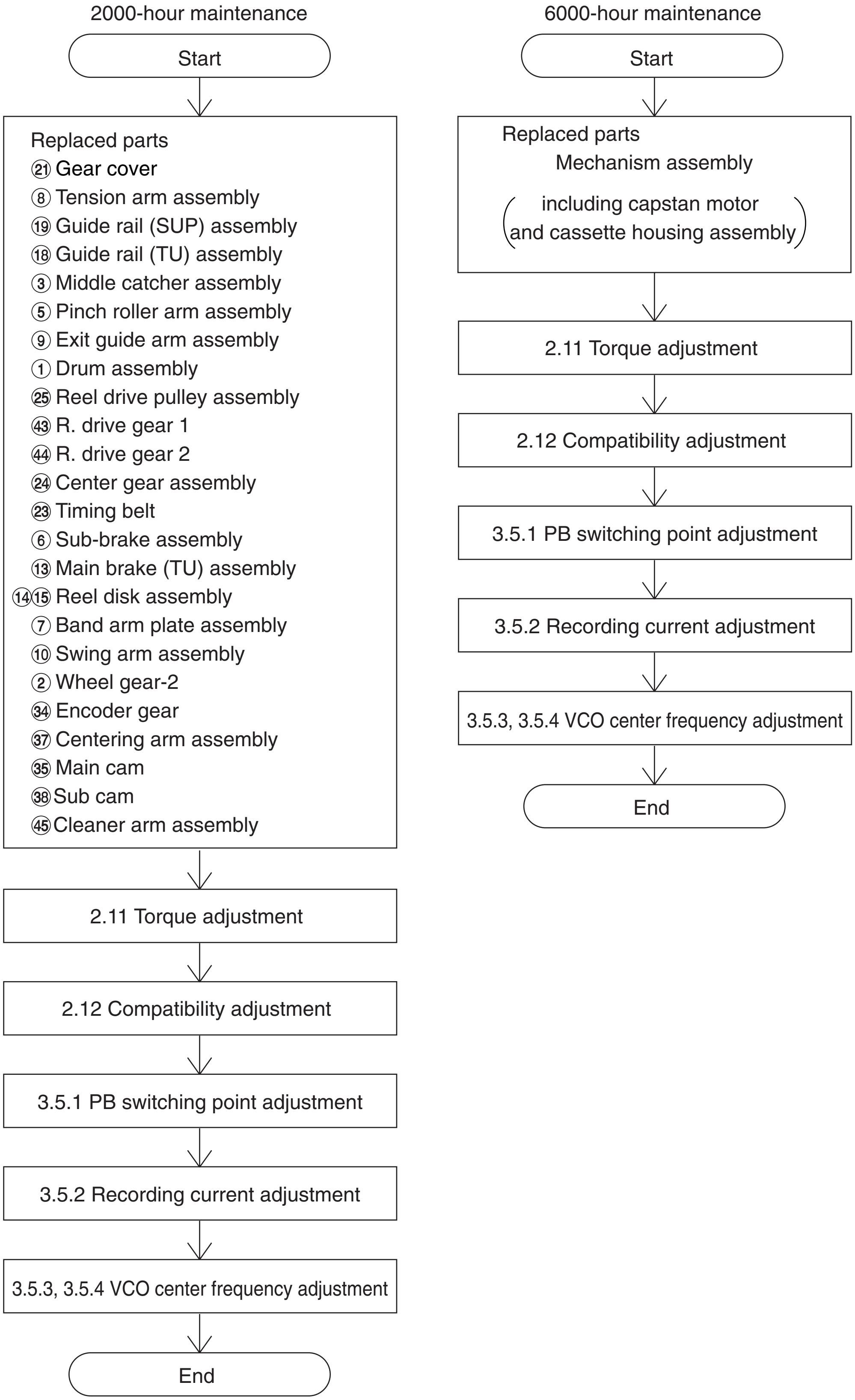

2000-hour maintenance
Start
Replaced parts
㉑ Gear cover
⑧ Tension arm assembly
⑲ Guide rail (SUP) assembly
⑱ Guide rail (TU) assembly
③ Middle catcher assembly
⑤ Pinch roller arm assembly
⑨ Exit guide arm assembly
① Drum assembly
㉕ Reel drive pulley assembly
㊸ R. drive gear 1
㊹ R. drive gear 2
㉔ Center gear assembly
㉓ Timing belt
⑥ Sub-brake assembly
⑬ Main brake (TU) assembly
⑭⑮ Reel disk assembly
⑦ Band arm plate assembly
⑩ Swing arm assembly
② Wheel gear-2
㉞ Encoder gear
㊲ Centering arm assembly
㉟ Main cam
㊳ Sub cam
㊺ Cleaner arm assembly
2.11 Torque adjustment
2.12 Compatibility adjustment
3.5.1 PB switching point adjustment
3.5.2 Recording current adjustment
3.5.3, 3.5.4 VCO center frequency adjustment
End
6000-hour maintenance
Start
Replaced parts
Mechanism assembly
(including capstan motor and cassette housing assembly)
2.11 Torque adjustment
2.12 Compatibility adjustment
3.5.1 PB switching point adjustment
3.5.2 Recording current adjustment
3.5.3, 3.5.4 VCO center frequency adjustment
End

Fig. 2-5-1

2.6 DISASSEMBLY/ASSEMBLY OF MECHANISM ASSEMBLY

2.6.1 Assembly/disassembly

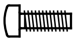
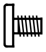
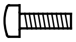
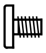
The following table shows the mechanism assembly/disassembly procedures.

① : Names of the disassembled/assembled parts.
② : Items of disassembly.
③ : Parts to be removed for disassembly, such as screws, washers and springs, and points.

Symbol	Name or Point
S	Screw
W	Washer
P	Spring
*	Connector, lock (L), soldering (SD), shield, etc.

2.6.2 Screws and washers used in mechanism assembly disassembly/assembly

Table 2-6-1 shows the symbols, designs, part numbers and colors of the screws and washers used with the Mechanism assembly.
When disassembling or assembling the Mechanism assembly, be sure to attach the correct screws and washers by referring to the following table.

Symbol	Design	Part No.	Color
(S1)		QYSDSP2005Z	Gold
(S2)		YQ43893	Silver
(S3)		YQ43893-7	Black
(S4)		QYSPSF2006Z	Gold
(S5)		LL40426-001A	Silver

Symbol	Design	Part No.	Color
W1		YQ44246	Red
W2		YQ44246-3	Black
W3		YQ43933-2	Black

Fig. 2-6-1

	Part Name	Item No.	Points	Remark
1	Ⓐ Cassette housing assembly, Ⓑ Main deck assembly	1	2(S1), 2(L1)	
2	① Drum assembly	2	3(S2)	
3	② Motor bracket (Gear cover) assembly	2	2(S2)	
4	③ Middle catcher assembly	5	3(S2)	

↑ ↑ ↑
① ② ③

2.6.3 Mechanism assembly disassembly procedure table

No.	Part Name	Item No.	Points	Remark
1	Ⓐ Cassette housing assembly	1	2 (S5), 2 (L1)	
2	① Drum assembly	2	3 (S2)	
3	② Motor bracket (Gear cover) assembly	2	2 (S2)	
4	③ Middle catcher assembly	5	3 (S2)	
5	④ Reel cover assembly	6	(S2), 2 (L6)	
6	⑤ Pinch roller arm assembly	3	(W1), (L7)	
7	⑥ Sub-brake assembly	10	(P1), (W1), (L8)	
8	⑦ Band arm plate assembly	8	(S3), (L9), (P2), (W2)	
9	⑧ Tension arm assembly	8	(P3)	
10	⑨ Exit guide arm assembly	4	(W1)	
11	⑩ Swing arm assembly	7	–	Position alignment
12	⑪ Sub-deck assembly	9	5 (S2)	Position alignment
13	⑫ Main brake (SUP) assembly	10	(P4), (L10)	
14	⑬ Main brake (TU) assembly	10	(P5), (L11)	
15	⑭ Reel disk assembly (SUP)	11	–	
16	⑮ Reel disk assembly (TU)	11	–	
17	⑯ Prism	7	(S2)	
18	⑰ Control plate	11	2 (L12)	
19	⑱ Guide rail (TU) assembly	12	4 (S2)	Position alignment
20	⑲ Guide rail (SUP) assembly	12	(S2), 2 (L13)	Position alignment
21	㉒ Wheel gear 2	13	–	
22	㉓ Timing belt	13	–	
23	㉔ Center gear assembly	13	–	
24	㉕ Reel drive pulley assembly	14	(W1)	
25	㉙ Tension control arm assembly	15	(L15)	Position alignment
26	㉚ Brake control arm assembly	15	(W1), (L16)	Position alignment
27	㉛ Charge arm assembly	15	(L17)	Position alignment
28	㉞ Encoder gear	16	–	Phase alignment
29	㉟ Main cam	16	(W1)	Phase alignment
30	㊱ Arm gear 1 assembly	16	Collar	Position alignment
31	㊲ Centering arm assembly	16	–	Position alignment
32	㊳ Sub cam	17	(S2)	Phase alignment
33	㊴ Arm gear 2 assembly	17	–	Position alignment
34	㊵ Clutch lock lever (C.P.D arm) assembly	17	(L19)	Position alignment
35	㊶ Capstan motor	–	–	Change with mechanism assembly
36	㊷ Drum base deck	–	3 (S2)	
37	㊸ R.drive gear 1	14	(W1)	
38	㊹ R.drive gear 2	14	(W1)	
39	㊺ Cleaner (Exit guide) arm assembly	4	(W1)	

Table 2-6-2

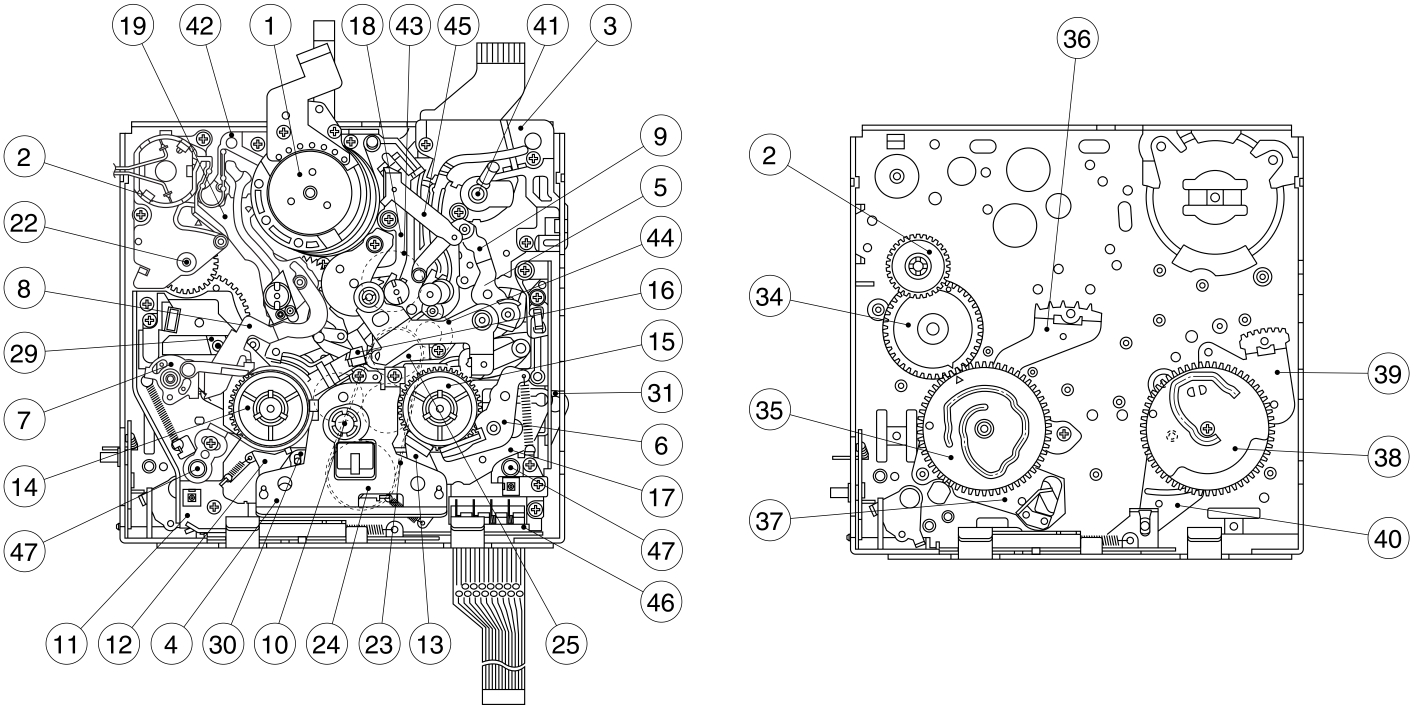

19
42
1
18
43
45
41
3
2
22
8
29
7
14
47
9
5
44
16
15
31
6
17
47
46
11
12
4
30
10
24
23
13
25
36
2
34
35
37
39
38
40

Fig. 2-6-1

2.6.4 Mechanism disassembly/assembly procedure chart

<How to read the chart>

- The following chart shows the disassembly/assembly procedures by dividing them into blocks A to I.
- To remove the tension arm sub-assembly which is located in block D; start disassembly from block A. The tension arm sub-assembly can be removed as the fourth operation after the removals of the cassette housing assembly (block A) → reel cover assembly (block B) → band arm plate assembly (block C).
- The parts enclosed in thick frames are the maintenance parts listed in the maintenance table.
- For details on the disassembly/assembly, see section 2.7, "Replacement of Major Parts".

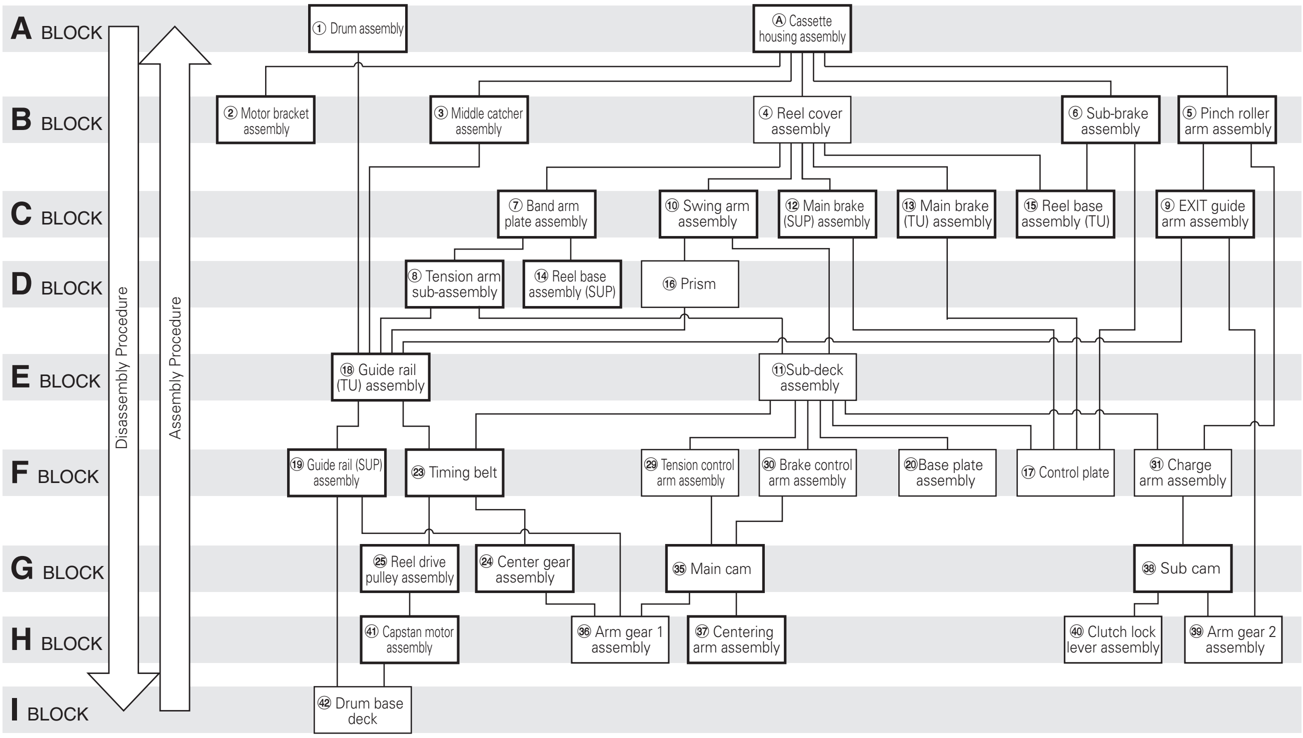
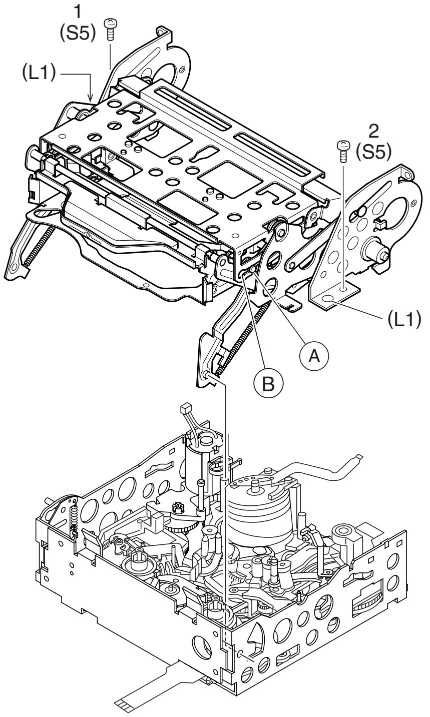
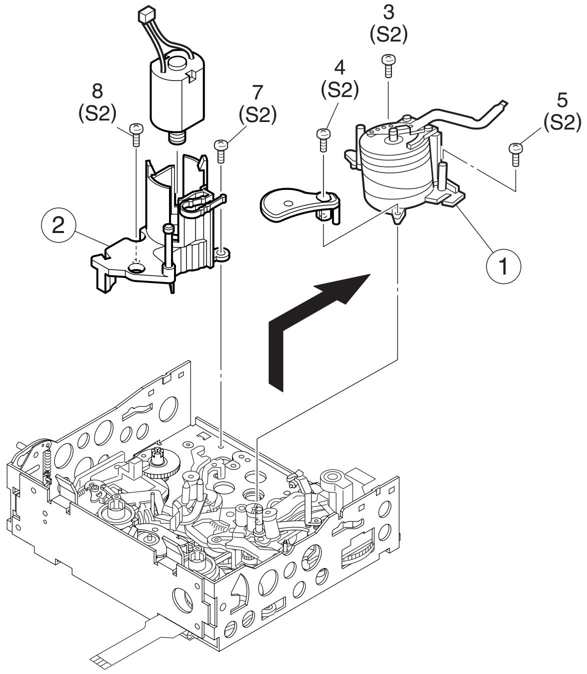

A BLOCK
B BLOCK
C BLOCK
D BLOCK
E BLOCK
F BLOCK
G BLOCK
H BLOCK
I BLOCK
Disassembly Procedure
Assembly Procedure
① Drum assembly
Ⓐ Cassette housing assembly
② Motor bracket assembly
③ Middle catcher assembly
④ Reel cover assembly
⑥ Sub-brake assembly
⑤ Pinch roller arm assembly
⑦ Band arm plate assembly
⑩ Swing arm assembly
⑫ Main brake (SUP) assembly
⑬ Main brake (TU) assembly
⑮ Reel base assembly (TU)
⑨ EXIT guide arm assembly
⑧ Tension arm sub-assembly
⑭ Reel base assembly (SUP)
⑯ Prism
⑱ Guide rail (TU) assembly
⑪ Sub-deck assembly
⑲ Guide rail (SUP) assembly
㉓ Timing belt
㉙ Tension control arm assembly
㉚ Brake control arm assembly
⑳ Base plate assembly
⑰ Control plate
㉛ Charge arm assembly
㉕ Reel drive pulley assembly
㉔ Center gear assembly
㉟ Main cam
㊳ Sub cam
㊶ Capstan motor assembly
㊱ Arm gear 1 assembly
㊲ Centering arm assembly
㊵ Clutch lock lever assembly
㊴ Arm gear 2 assembly
㊷ Drum base deck

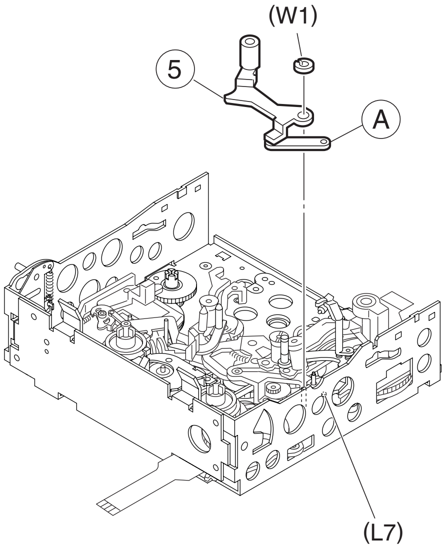
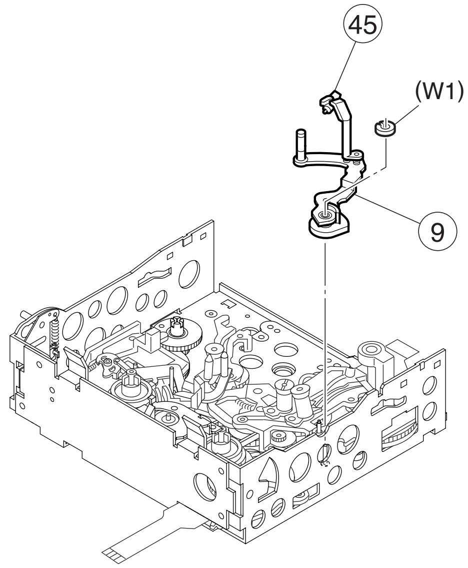
Fig. 2-6-2

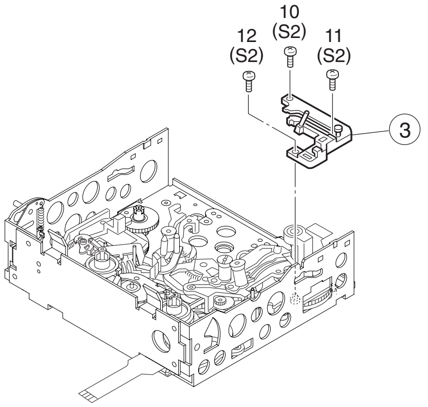
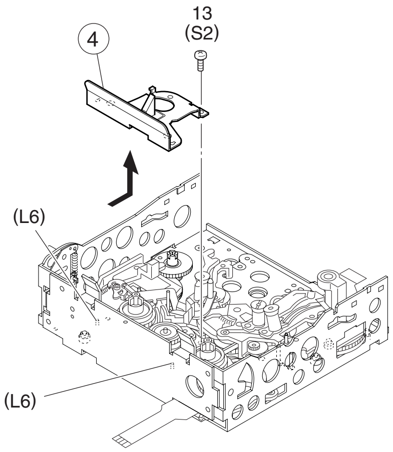
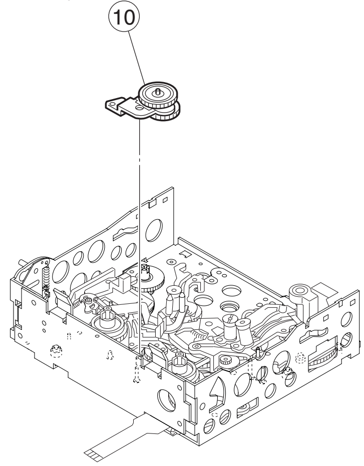
No.	Item	Reference picture/drawing	Procedure

2.7 REPLACEMENT OF MAJOR PARTS

- Make sure that the mechanism is in the ASSEMBLY mode before proceeding to disassembly or assembly. (See section 2.1, "Assembly Mode".)
- Screws must always be tightened using a torque screwdriver and at the specified torque.

1	Ⓐ Cassette housing assembly	 **Fig. 2-7-1**	**<Removal>** ① Cassette housing assembly See the 1.3.2 Cassette housing on the page 1-4. ② Outer unit assembly 1) Align the boss Ⓐ that pulls out the cassette housing to the round hole Ⓑ of Outer unit assembly, and then remove it. **<Attaching>** 1) Reverse the removal procedure.
2	① Drum assembly, ② Motor bracket (Gear cover) assembly	 3 (S2) 4 (S2) 8 (S2) 7 (S2) 5 (S2) 2 1 **Fig. 2-7-2**	**<Removal>** ① Drum assembly 1) Remove the 3 screws (S2) and take out the assembly. ② Motor bracket (Gear cover) assembly 1) Remove the 2 screws and take out the motor bracket assembly. 2) After removing the lock of the motor bracket, the motor can be removed by lifting the motor upward. **<Attaching>** 1) Reverse the removal procedure **NOTE** · **When mounting the motor, make sure that the claw of the motor bracket is properly locked.** **If the claw is not properly locked, change the direction for mounting the motor.**

No.	Item	Reference picture/drawing	Procedure
3	⑤ Pinch roller arm assembly	 **Fig. 2-7-3**	**<Removal>** 1) Remove the washer (W1) and pull out the assembly. **<Attaching>** 1) Fit the pinch roller arm assembly Ⓐ into the boss (L7) of the charge arm assembly. 2) Attach the washer (W1).
4	⑨ Exit guide arm assembly ㊺ Cleaner arm assembly	 **Fig. 2-7-4**	**<Removal>** 1) Remove the washer (W1) and pull out the assembly. **<Attaching>** 1) Reverse the removal procedure.

No.	Item	Reference picture/drawing	Procedure
5	③ Middle catcher assembly	 **Fig. 2-7-5**	**<Removal>** 1) Remove the 3 screws (S2) and remove the assembly. **<Attaching>** 1) Reverse the removal procedure.
6	④ Reel cover assembly	 **Fig. 2-7-6**	**<Removal>** 1) Remove the screw (S2). 2) Slide the assembly toward the drum and lift the assembly up to remove it. **NOTE** · **After having removed the reel cover, take care because the parts located below the reel cover tend to slip out easily.** **<Attaching>** 1) Insert the reel cover into (L6) and attach by reversing the removal procedure.
7	⑩ Swing arm assembly	 **Fig. 2-7-7**	**<Removal>** 1) Pull the assembly upward. **<Attaching>** 1) Reverse the removal procedure.

8 ⑦ Band arm plate assembly, ⑧ Tension arm assembly

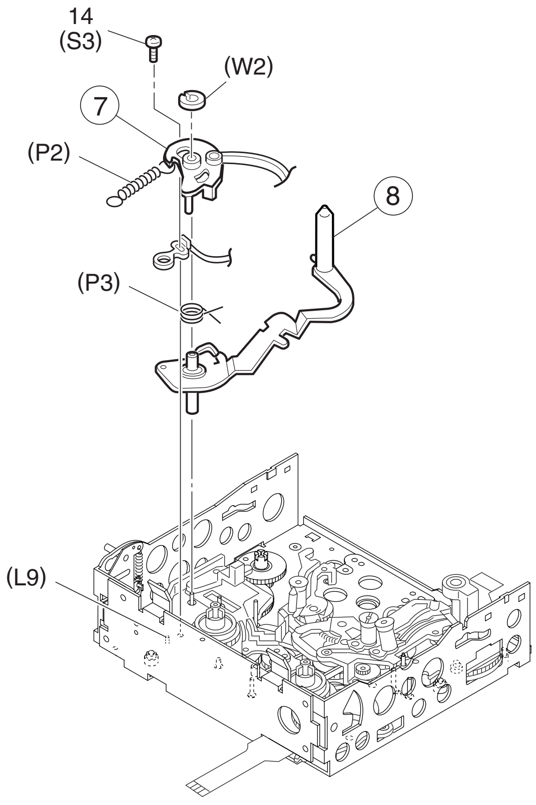
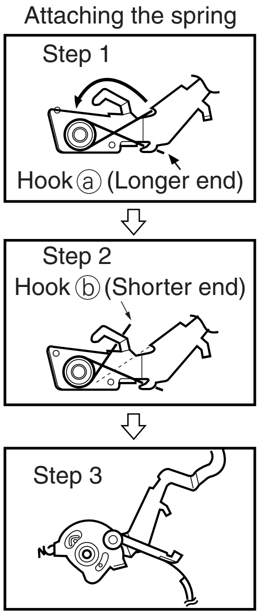


Fig. 2-7-8(a)



The spring (P3) should be attached only to the tension arm assembly ⑧. It should not contact the band arm plate assembly ⑦.

Fig. 2-7-8(b)

<Removal>

1) Remove the washer (W2).
2) Remove the screw (S3).
3) Remove the spring (P2).
4) Remove the band arm plate assembly and tension arm assembly.

NOTE

Be careful not to lose the spring (P3).

<Attaching>

1) Attach the spring (P3) to the tension arm assembly. Engage the longer end of spring to hook ⓐ and the shorter end to hook ⓑ as shown in Fig. 2-7-8(b).
2) Attach the tension arm sub-assembly.
3) Attach the band arm plate assembly.
4) Clamp with the screw (S3) and washer (W2).
5) Attach the spring (P2) to (L9).

NOTE

After attaching, ensure that the band arm assembly can rotate in the direction of the arrow as shown in Fig. 2-7-8(c).

Attach so that the section Ⓐ comes on the outer side of the tension arm assembly ⑧.

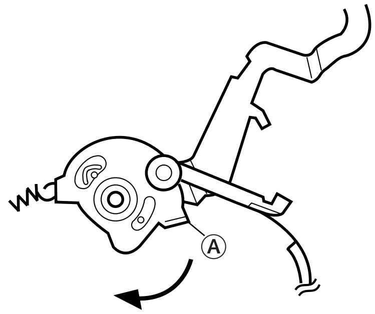


Fig. 2-7-8(c)

6) After attaching, adjust the tension.

No.	Item	Reference picture/drawing	Procedure

8 <Tension arm assembly position adjustment>

1) Without loading a tape, set the mechanism mode to PLAY mode.
   To switch the mode, rotate wheel gear 2 while the motor bracket assembly is disengaged (see 2.2, "Mechanism Modes").

2) Rotate the tension arm slightly clockwise to eliminate production of rattle with the band arm plate.
3) Ensure that the notch on the tension arm is located within area A. (See Fig. 2-7-8(e).)
4) If the tension arm is not located in area A, loosen screw B (black) lightly and fine-adjust the position of the band arm plate assembly. Turn the screw counterclockwise to move the tension arm extremity toward the right or clockwise to move it toward the left.
5) After the adjustment, clamp the band holder by tightening screw B (black) (with a securing torque of 5.88 Nm, or 0.6 kgf-cm). Then adjust the tension arm position again.

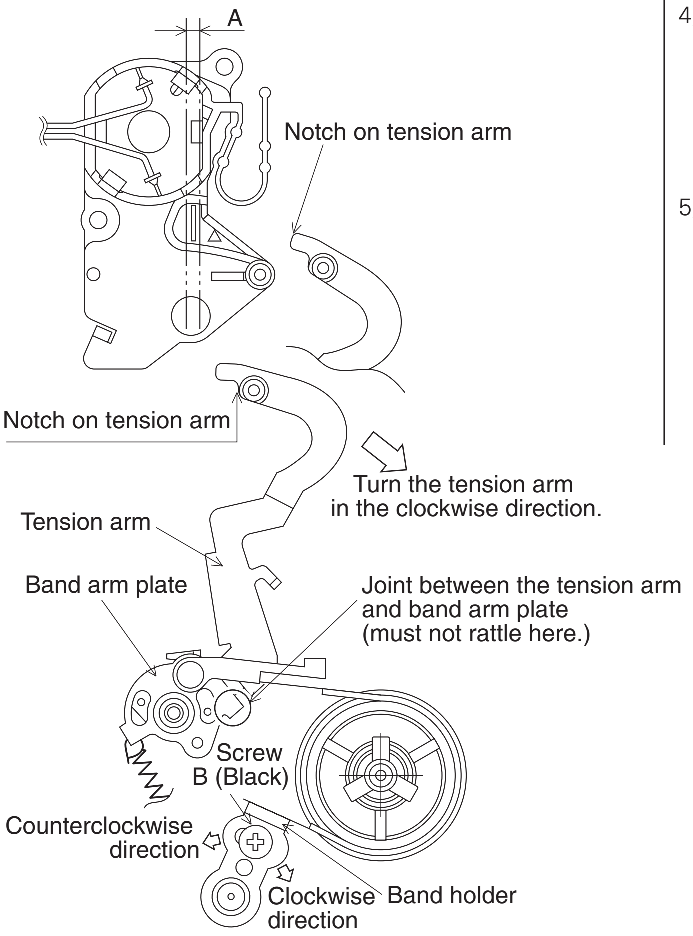

A
Notch on tension arm
Notch on tension arm
Turn the tension arm in the clockwise direction.
Tension arm
Band arm plate
Joint between the tension arm and band arm plate (must not rattle here.)
Screw B (Black)
Counterclockwise direction
Clockwise direction
Band holder

Fig. 2-7-8(d)

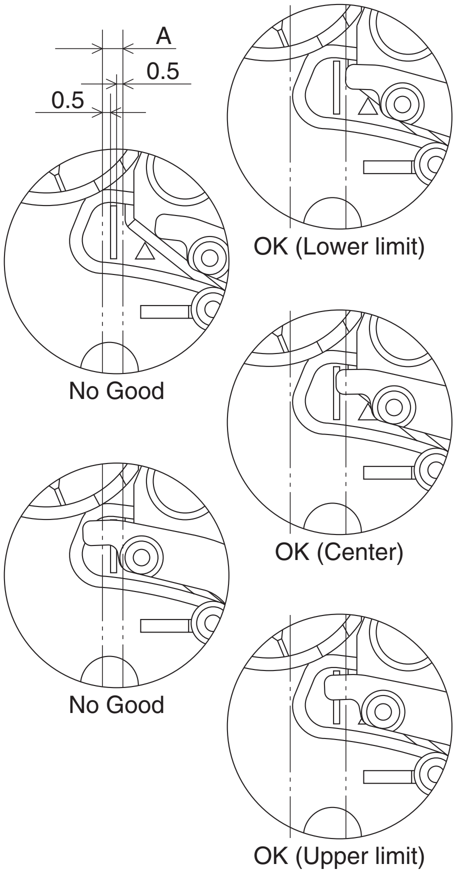
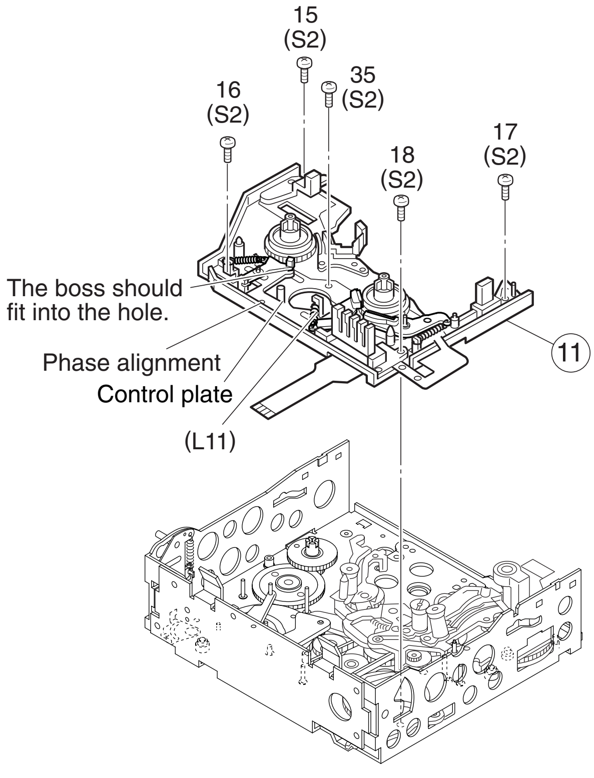
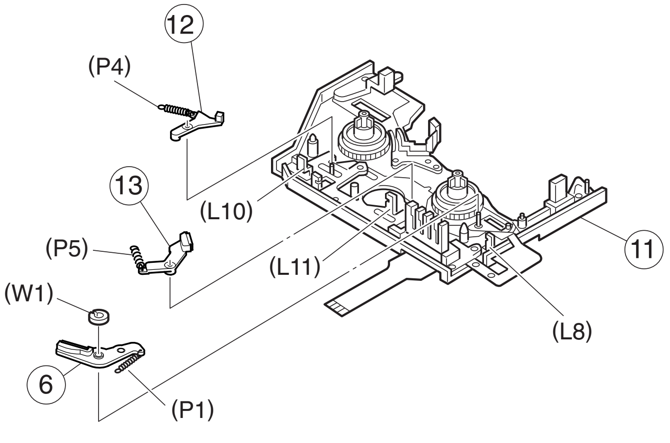

A
0.5
0.5
OK (Lower limit)
No Good
OK (Center)
No Good
OK (Upper limit)

Fig. 2-7-8(e)

No.	Item	Reference picture/drawing	Procedure
9	⑪ Sub-deck assembly	 15 (S2) 16 (S2) 35 (S2) 18 (S2) 17 (S2) The boss should fit into the hole. Phase alignment Control plate (L11) 11 **Fig. 2-7-9**	**<Removal>** 1) Remove the 5 screws (S2) and pull out the assembly. **<Attaching>** 1) While sliding the control plate toward the left, attach the sub-deck assembly. **NOTE** · **Attach by aligning the phase holes of the main deck assembly and control plate.** 2) Clamp with 5 screws (S2).
10	⑫ Main brake (SUP) assembly, ⑬ Main brake (TU) assembly, ⑥ Sub-brake assembly	 12 (P4) 13 (L10) (P5) (L11) (W1) 11 (L8) 6 (P1) **Fig. 2-7-10**	**<Removal>** **Main brake (SUP) (TU) assembly** 1) Remove the spring by disengaging its ends from the hooks (L10) and (L11). **Sub-brake assembly** 1) Remove the washer (W1). 2) Remove the spring by disengaging it from the hook (L8). **<Attaching>** 1) Reverse the removal procedure.

No.	Item	Reference picture/drawing	Procedure

11 ⑭ Reel disk (SUP) assembly, ⑮ Reel disk (TU) assembly, ⑰ Control plate, ⑯ Prism

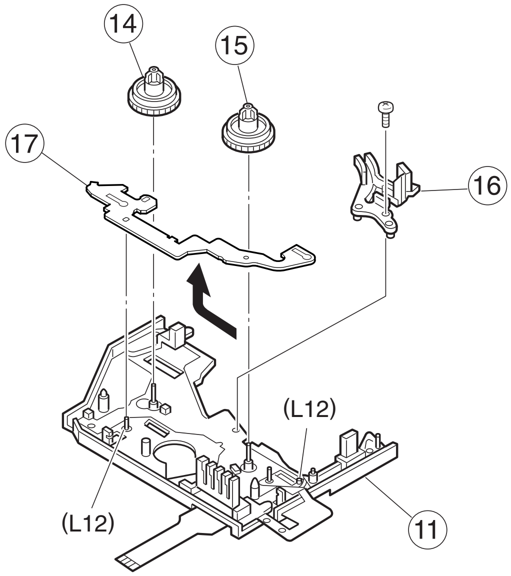


Fig. 2-7-11

<Removal>

1) Pull up each assembly to remove it. The control plate can be removed by sliding it toward the left as shown by the arrow.
2) Remove the screw (S2) to remove the prism.

<Attaching>

1) Reverse the removal procedure.

12 ⑱ Guide rail (TU) assembly, ⑲ Guide rail (SUP) assembly

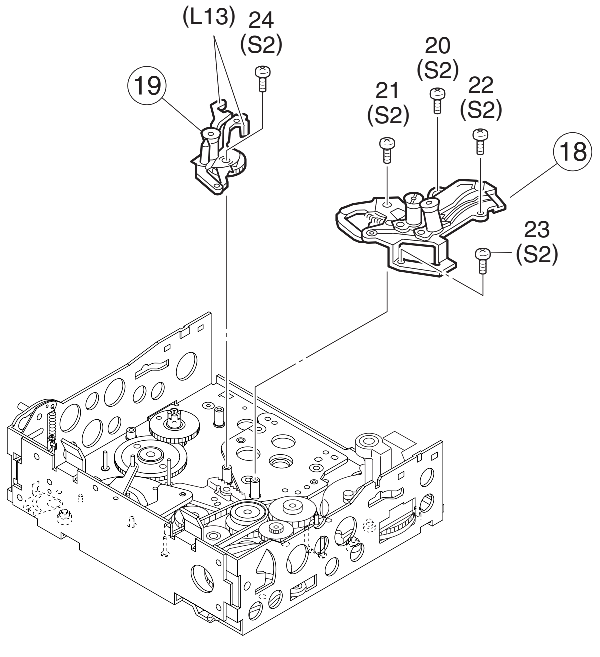


Fig. 2-7-12(a)

<Removal>

Guide rail (TU) assembly:

1) Remove the 4 screws (S2) and remove the assembly.

Guide rail (SUP) assembly:

1) Remove the screw (S2) and remove the assembly.

<Attaching>

1) Return the guide pole fully to the unloading position, and attach the assemblies by reversing the removal procedures. When attaching, place the alignment markings of the two gears so that they face each other. (See Fig. 2-7-12(b).)

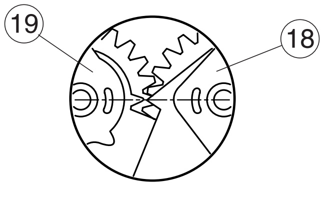
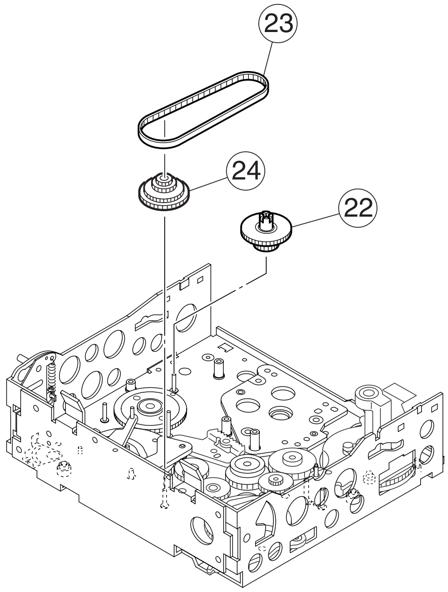
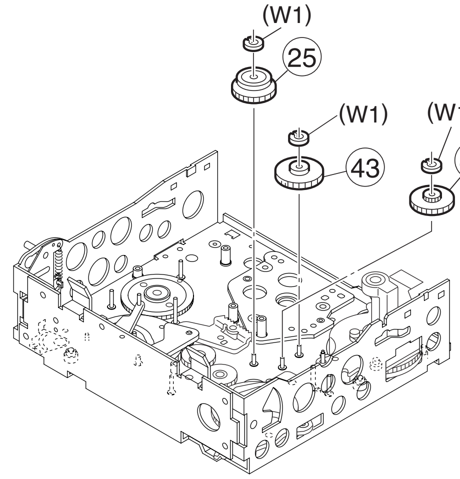


Fig. 2-7-12(b)

No.	Item	Reference picture/drawing	Procedure
13	㉒ Wheel gear 2, ㉓ Timing belt, ㉔ Center gear assembly	 **Fig. 2-7-13**	**<Removal>** 1) Each parts can be removed by simply pulling them out. **<Attaching>** 1) Reverse the removal procedure.
14	㉕ Reel drive pulley assembly, ㊸ R. drive gear 1, ㊹ R. drive gear 2	 **Fig. 2-7-14**	**<Removal>** 1) Remove the washer (W1) and take out the assembly. **<Attaching>** 1) Reverse the removal procedure.

No.	Item	Reference picture/drawing	Procedure

15 ㉙ Tension control arm assembly, ㉚ Brake control arm assembly, ㉛ Charge arm assembly

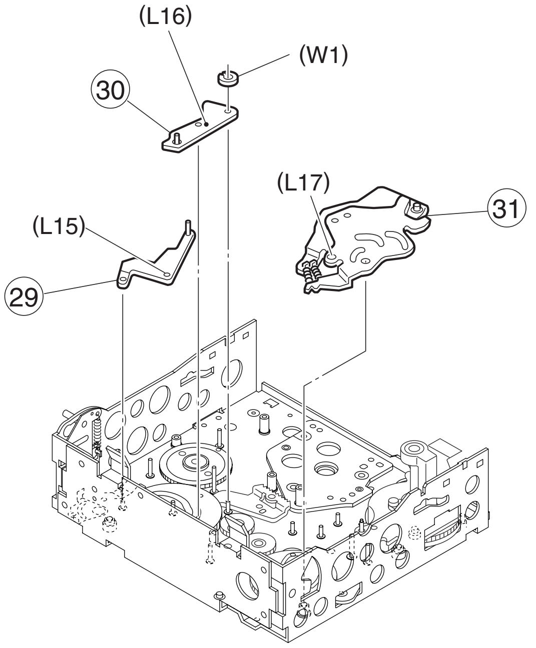

(L16)
(W1)
30
(L17)
31
(L15)
29

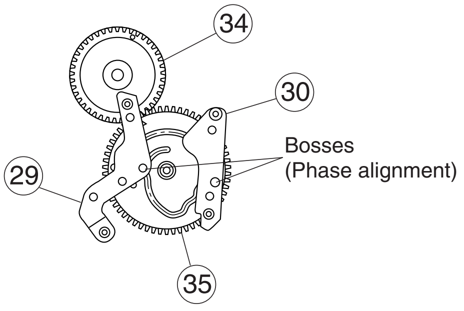
Fig. 2-7-15(a)

<Removal>

1) The brake control assembly can be removed after removing the washer (W1).

<Attaching>

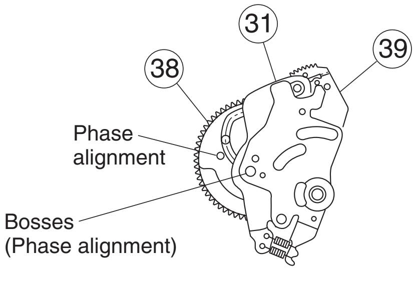
1) Align the phases of the main cam and sub cam , then attach by reversing the removal procedure. Refer to Fig. 2-7-15(b) and Fig. 2-7-15(c).


34
30
Bosses
(Phase alignment)
29
35

Align the phase of the main cam ㉟ then attach by fitting the bosses in the cam groove.

Fig. 2-7-15(b)

Attaching Tension Control Arm Assembly ㉙ and Brake Control Arm Assembly ㉚


31
39
38
Phase alignment
Bosses
(Phase alignment)

Phase alignment
Boss (Phase alignment)
Align the phase of the sub cam ㊳, then attach by fitting the boss into the cam groove.

Fig. 2-7-15(c) Attaching the Charge Arm Assembly ㉛

16 ㉞ Encoder gear, ㉟ Main cam , ㊱ Arm gear 1 assembly, ㊲ Centering arm assembly

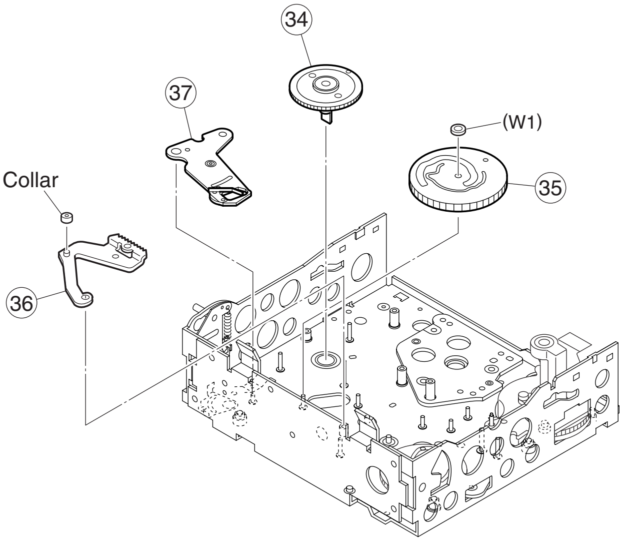
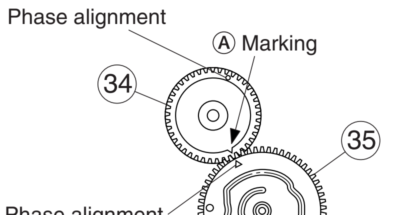

34
37
(W1)
Collar
35
36

Fig. 2-7-16(a)


Phase alignment
Ⓐ Marking
34
35
Phase alignment

Align the phase of the main cam ㉟, then attach by aligning the red-colored markings Ⓐ (on 2 gear teeth) inside ○.

Fig. 2-7-16(c) Attaching the Rotary Encoder Assembly ㉞

<Removal>

1) The main cam can be removed by removing the washer (W1). As the cam gear is engaged at the rear of the main deck assembly while the phase is aligned, deviate the phase in the direction of the arrow before removal. (See Fig. 2-7-16(b).)

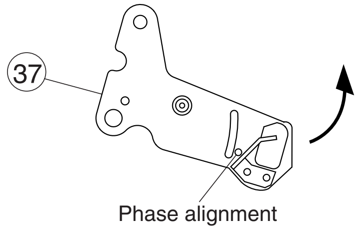
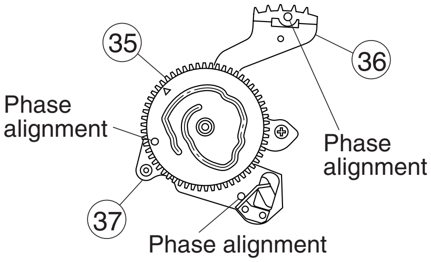

37
Phase alignment

Fig. 2-7-16(b) Removing the Centering Arm Assembly ㊲

<Attaching>

1) Align the phase by referring to Figs. 2-7-16(c) and 2-7-16(d), then attach the ass'ies reverse the removal procedure.


35
36
Phase alignment
Phase alignment
37
Phase alignment

Align the phases of the arm gear 1 assembly ㊱ and centering arm assembly ㊲, then align those of the arm gear 1 assembly ㊱ and centering arm assembly ㊲, attach the gear by fitting the bosses into the cam groove below, and fit the slit washers.

Fig. 2-7-16(d) Attaching the Main Cam ㉟

17 ㊳ Sub cam ㊴ Arm gear 2 assembly, ㊵ Clutch lock lever assembly

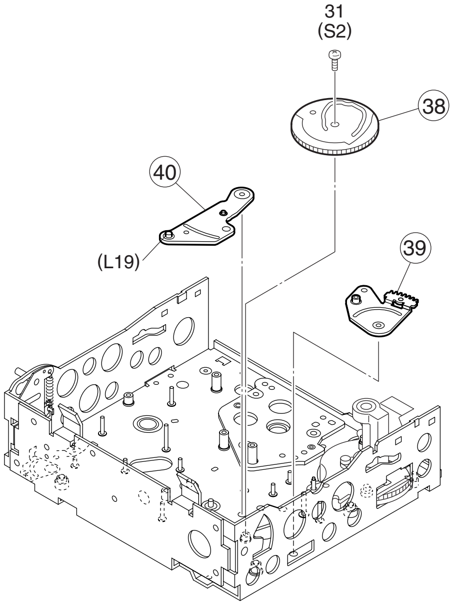

31
(S2)
38
40
(L19)
39

Fig. 2-7-17(a)

<Removal>

1) Remove the screw (S2) and take out the sub cam . As L19 is engaged at the rear of the main deck assembly while the phase is aligned, deviate the phase in the direction of the arrow before removal. 20. This checking should be done after completing the switching point adjustment.

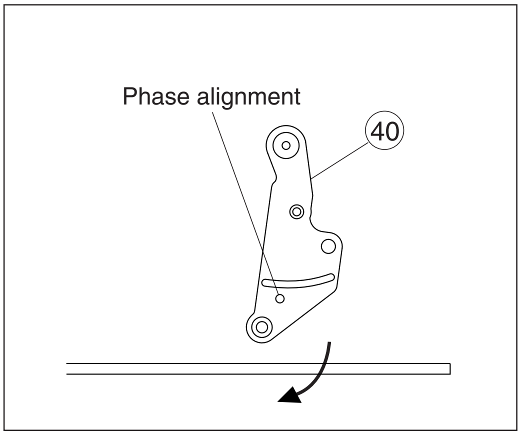
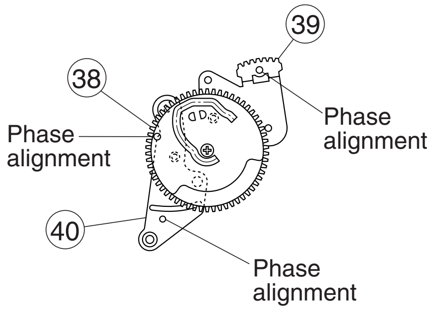

Phase alignment
40

Fig. 2-7-17(b) Removing the Clutch Lock Lever Assembly ㊵

<Attaching>

1) Align the phase correctly by referring to Fig. 2-7-17(c), then attach by reversing the removal procedure.

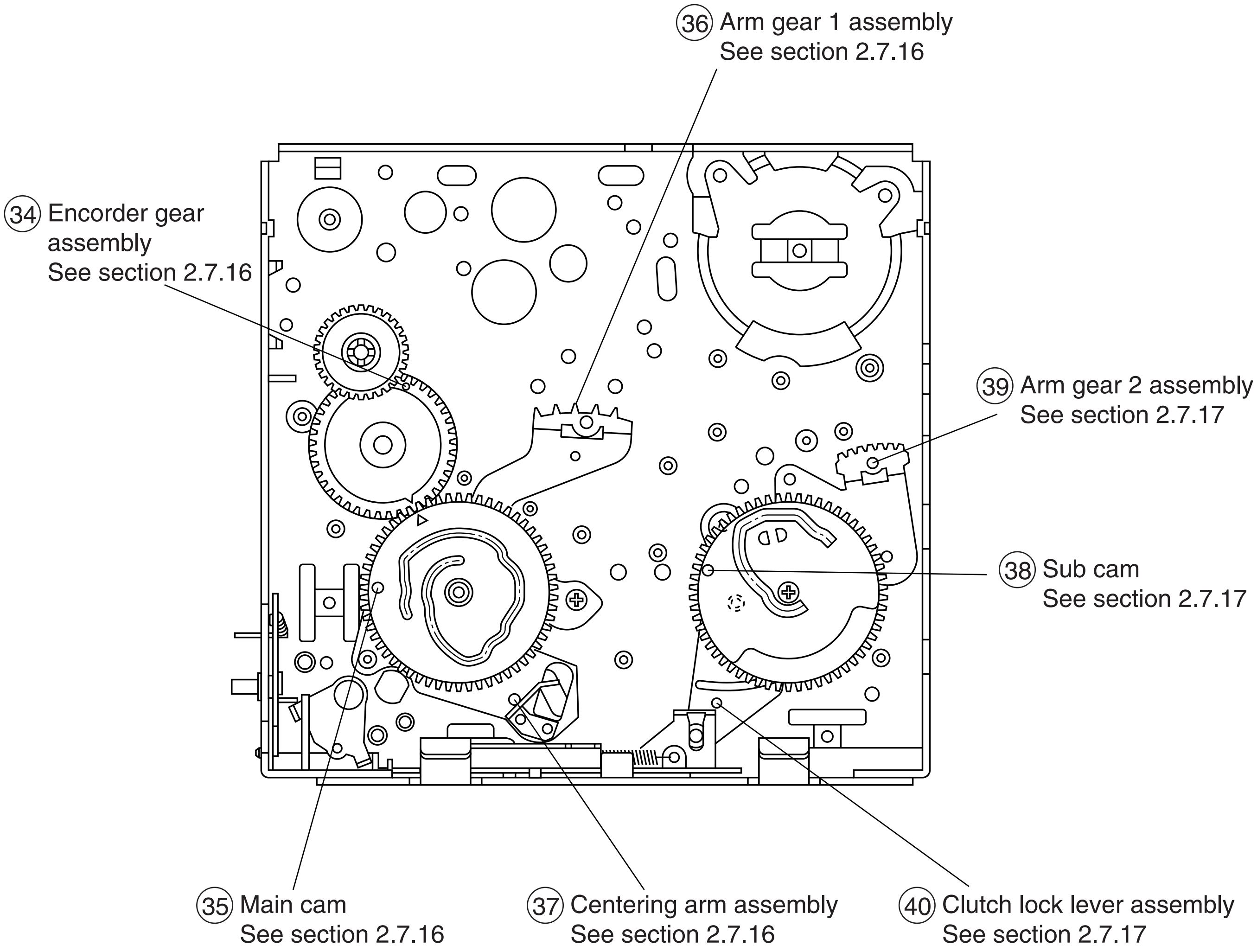

39
38
Phase alignment
Phase alignment
40
Phase alignment

Align the phases of the arm gear 2 assembly ㊴ and clutch lock lever assembly ㊵, attach them by fitting the boss into the cam groove below, and clamp with the screw.

Fig. 2-7-17(c) Attaching the Sub Cam ㊳

2.8 CONFIRMATION AND ADJUSTMENT OF MECHANISM PHASES

See Fig. 2-8-1.



㊱ Arm gear 1 assembly
See section 2.7.16
㉞ Encorder gear assembly
See section 2.7.16
㊴ Arm gear 2 assembly
See section 2.7.17
㊳ Sub cam
See section 2.7.17
㉟ Main cam
See section 2.7.16
㊲ Centering arm assembly
See section 2.7.16
㊵ Clutch lock lever assembly
See section 2.7.17

Fig. 2-8-1

2.9 DISASSEMBLY PROCEDURE LIST

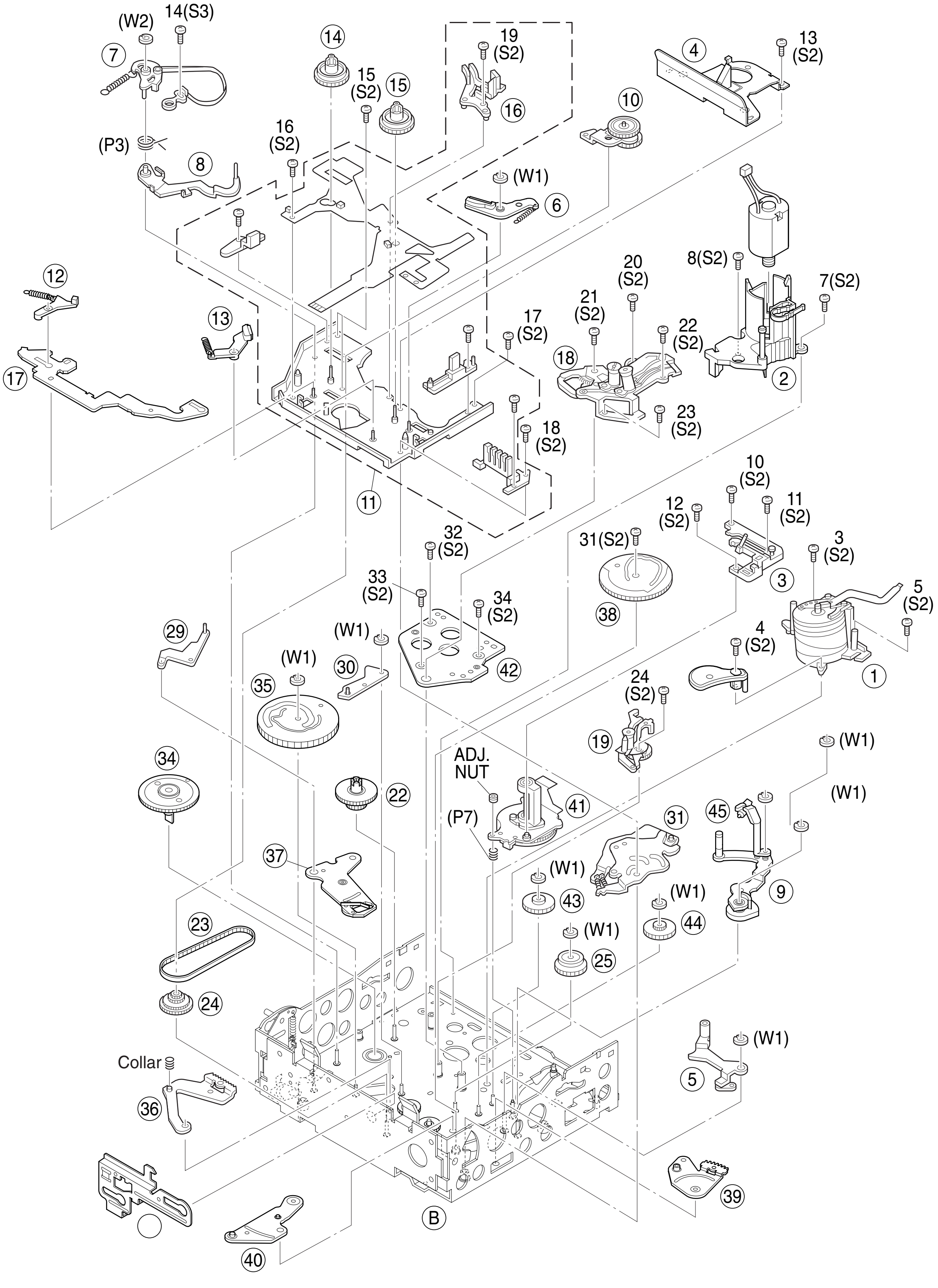

(W2)
14(S3)
7
14
19
(S2)
16
15
(S2)
15
4
13
(S2)
10
(P3)
16
(S2)
8
(W1)
6
12
20
(S2)
8(S2)
7(S2)
13
21
(S2)
17
(S2)
22
(S2)
18
2
17
23
(S2)
18
(S2)
11
10
(S2)
12
(S2)
11
(S2)
32
(S2)
31(S2)
3
(S2)
3
33
(S2)
34
(S2)
38
5
(S2)
29
(W1)
4
(S2)
30
(W1)
42
1
35
24
(S2)
19
(W1)
ADJ.
NUT
34
22
41
(W1)
(P7)
31
45
37
(W1)
43
(W1)
9
44
(W1)
23
25
24
(W1)
Collar
5
36
39
B
40

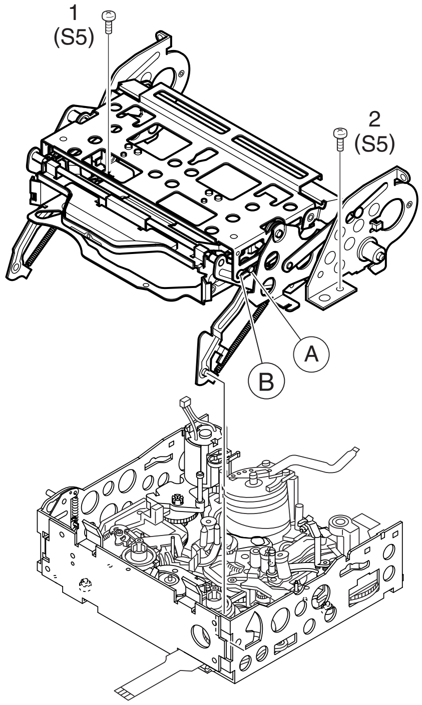
Fig. 2-9-1

Note) For the grease and oil application points, see section 5.6, "MECHANISM ASSEMBLY PARTS LIST M 6"

2.10 MECHANISM DISASSEMBLY/ASSEMBLY SHEET

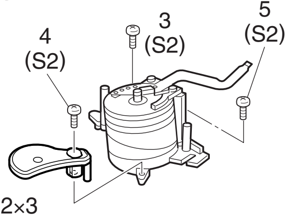
Screw Management																	
Drawing No.	Ⓐ		①			②		③			④	⑦	⑪				
No.	1	2	3	4	5	7	8	10	11	12	13	14	15	16	17	18	35
Table	S5	S5	S2	S2	S2	S2	S2	S2	S2	S2	S2	S3	S2	S2	S2	S2	S2
Application																	
Ref. No.	No.1		No.2					No.5				No.8	No.9				

Ⓐ Cassette housing assembly



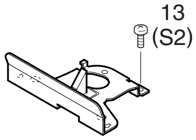
S37×2

① Drum assembly



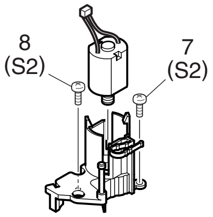
S2×3

④ Reel cover assembly



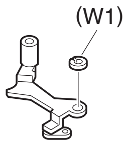
S2,L6×2

② Motor bracket assembly



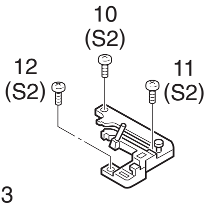
S2×4

⑤ Pinch roller arm assembly



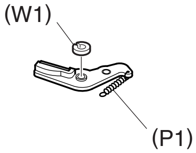
W1,7

③ Middle catcher assembly


10
(S2)
12
(S2)
11
(S2)

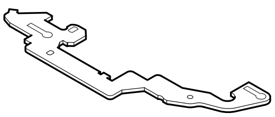
S2×3

⑥ Sub-brake assembly



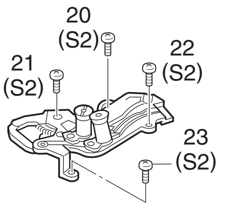
P1,W1,L8

⑰ Control plate



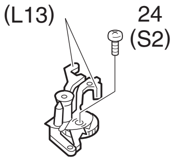
L12×2

⑱ Guide rail (TU) assembly


20
(S2)
21
(S2)
22
(S2)
23
(S2)

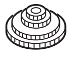
S2×4

⑲ Guide rail (SUP) assembly

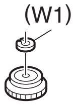


S2,L13×2

㉔ Center gear assembly

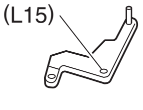


㉕ Reel drive pulley assembly

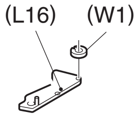


W1

㉙ Tension control arm assembly

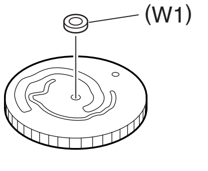


㉚ Brake control arm assembly



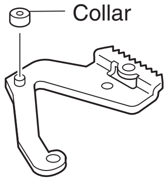
W1,L16

㉟ Main cam



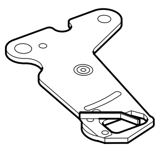
W1

㊱ Arm gear 1 assembly
Collar

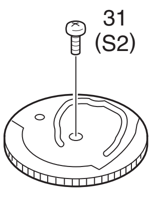


Collar

㊲ Centering arm assembly



㊳ Sub cam

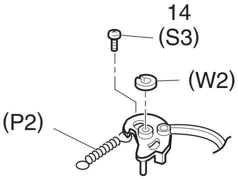


S2

Screw Management									
⑯	⑱				⑲	㊳	㊷		
19	20	21	22	23	24	31	32	33	34
S2	S2	S2	S2	S2	S2	S2	S2	S2	S2
No.11	No.12					No.17	–		

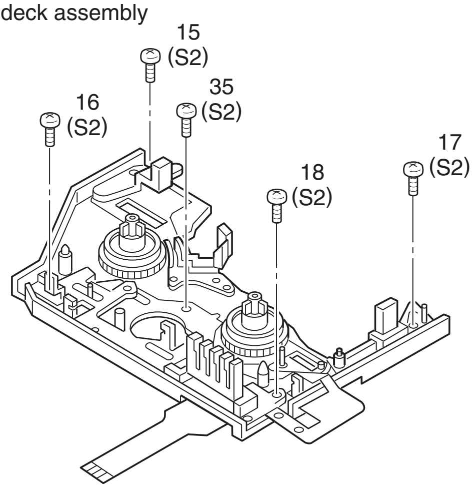
The slit washers cannot be reused once they have been removed.

⑦ Band arm plate assembly



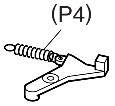
S3,P2,L9,W2

⑪ Sub-deck assembly


15
(S2)
35
(S2)
16
(S2)
17
(S2)
18
(S2)

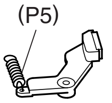
S2×5

⑫ Main brake (SUP) assembly



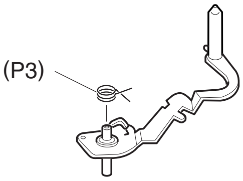
P4,L10

⑬ Main brake (TU) assembly



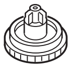
P5,L11

⑧ Tension arm assembly

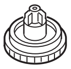


P3

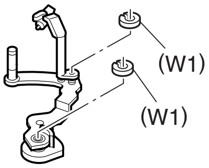
⑭ Reel base assembly (SUP)



⑮ Reel base assembly (TU)

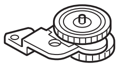


⑨ Exit guide arm assembly
㊺ Cleaner arm assembly

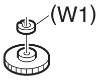


W1

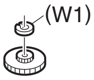
⑩ Swing arm assembly



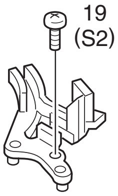
㊸ R. drive gear 1



㊹ R. drive gear 2

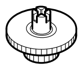


⑯ Prism

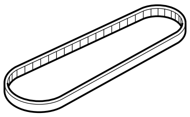


S2

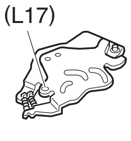
㉒ Wheel gear



㉓ Timing belt

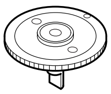


㉛ Charge arm assembly

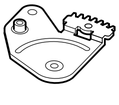


L17

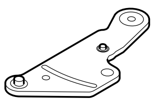
㉞ Encorder gear



㊴ Arm gear 2 assembly

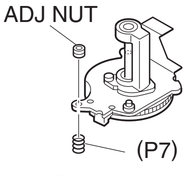


㊵ Clutch lock lever assembly
(C.P.D arm assembly)



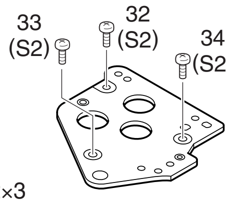
L19

㊶ Capstan motor



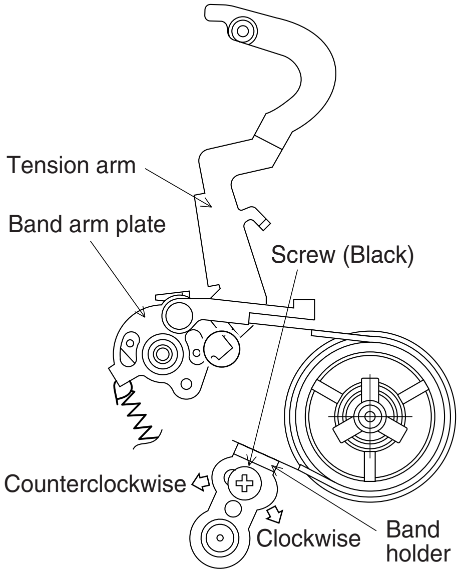
ADJ NUT,P7

㊷ Drum base deck


33
(S2)
32
(S2)
34
(S2)

S2×3

2.11 TORQUE ADJUSTMENTS

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	SUP backup torque adjustment	• Cassette torque meter	Play	◎ Supply side indication of cassette torque meter ☆ $3.9^{+1.47}_{-0.39} \times 10^{-4}$ N·m ($4.0^{+1.5}_{-0.4}$ gf·cm)  Tension arm Band arm plate Screw (Black) Counterclockwise Clockwise Band holder	(1) Insert the cassette torque meter and enter play mode. (2) The supply backup torque should be as specified. (If it fluctuates, read the center value.) (3) If it is out of specification, eject the tape, remove the cassette housing, loosen the screw (black) slightly and fine-adjust the band holder. Slightly turn the band holder as follows. · To increase torque: Counterclockwise · To decrease torque: Clockwise. **NOTE** **The screw securing torque should be 0.0588 N-m (0.6 kgf·cm).** 4) Check the supply backup torque again and repeat the above steps until it becomes as specified.
2	Take-up wind torque adjustment	Cassette torque meter YTU94150A	PLAY, Adjustment menu No. 110	◎ Take-up side reading of cassette torque meter ☆ $4.9^{+4.90}_{-1.96} \times 10^{-4}$ N·m ($5.0^{+5.0}_{-2.0}$ gf·cm)	1) Select adjustment menu [119. FWD TORQUE]. **(For the adjustment menu, see 3.3, "Adjustment menu".)** 2) Insert the torque cassette meter YTU94150A and press the [PLAY] button. 3) Adjust the TU wind torque so that it is within the specified range. · Press JOG dial to enter the adjustment mode. · To increase the torque → Rotate JOG dial to the clockwise. · To decrease the torque → Rotate JOG dial to the counter-clockwise. 4) After adjustment, press JOG dial to store the adjustment data.

2.12 COMPATIBILITY ADJUSTMENT

2.12.1 Compatibility adjustment flow chart

Fig. 2-12-1 shows the flow chart of compatibility adjustment.

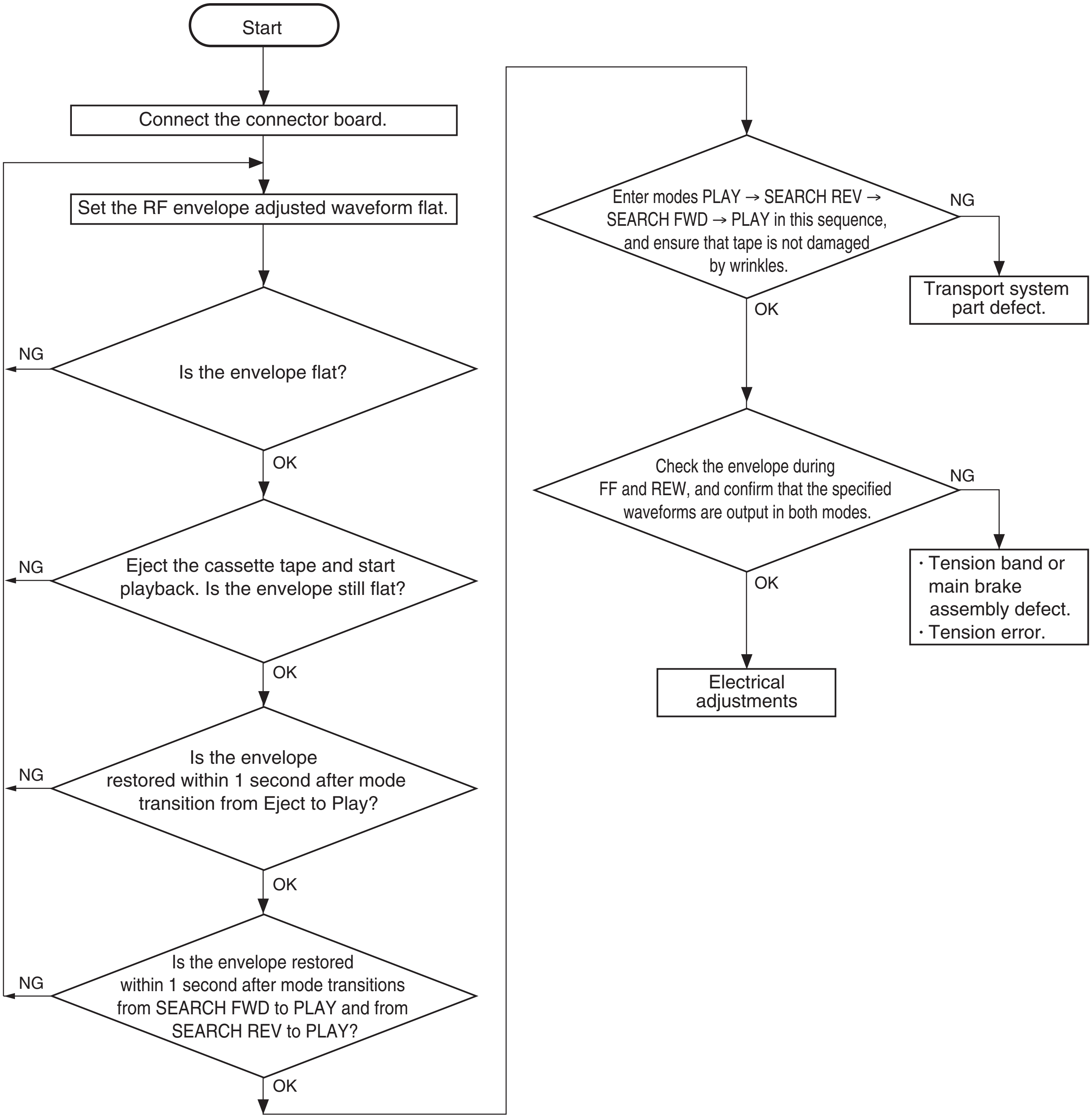
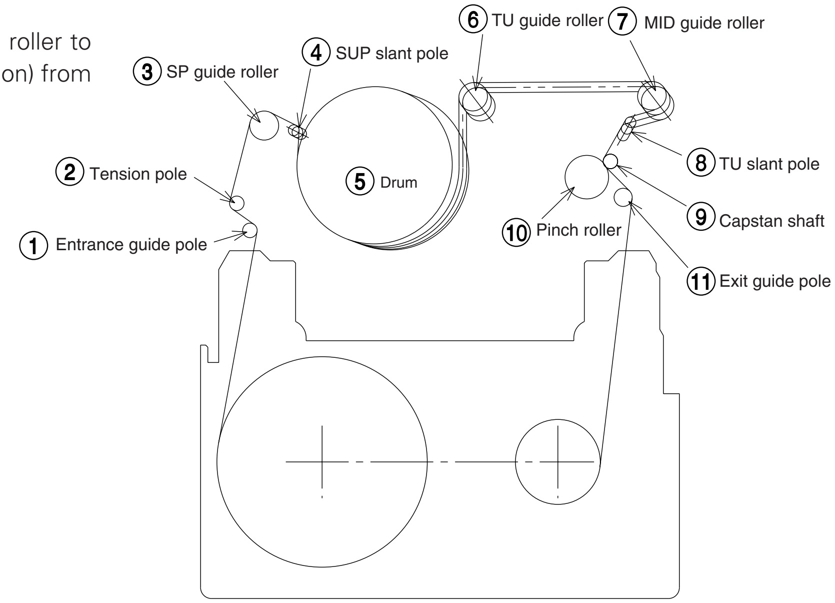

Start
Connect the connector board.
Set the RF envelope adjusted waveform flat.
Is the envelope flat?
NG
OK
Eject the cassette tape and start playback. Is the envelope still flat?
NG
OK
Is the envelope restored within 1 second after mode transition from Eject to Play?
NG
OK
Is the envelope restored within 1 second after mode transitions from SEARCH FWD to PLAY and from SEARCH REV to PLAY?
NG
OK
Enter modes PLAY → SEARCH REV → SEARCH FWD → PLAY in this sequence, and ensure that tape is not damaged by wrinkles.
NG
Transport system part defect.
OK
Check the envelope during FF and REW, and confirm that the specified waveforms are output in both modes.
NG
· Tension band or main brake assembly defect.
· Tension error.
OK
Electrical adjustments

Fig. 2-12-1

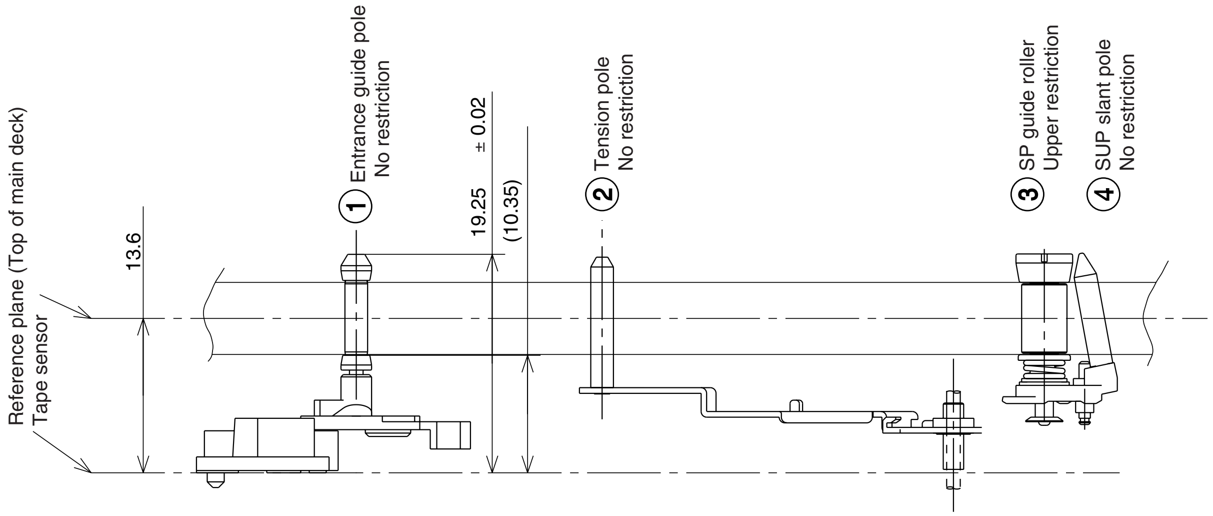
2.12.2 Tape transport restriction

The unit uses only the SUP guide roller and TU guide roller to restrict the tape transport. The tape is free (no restriction) from other parts.



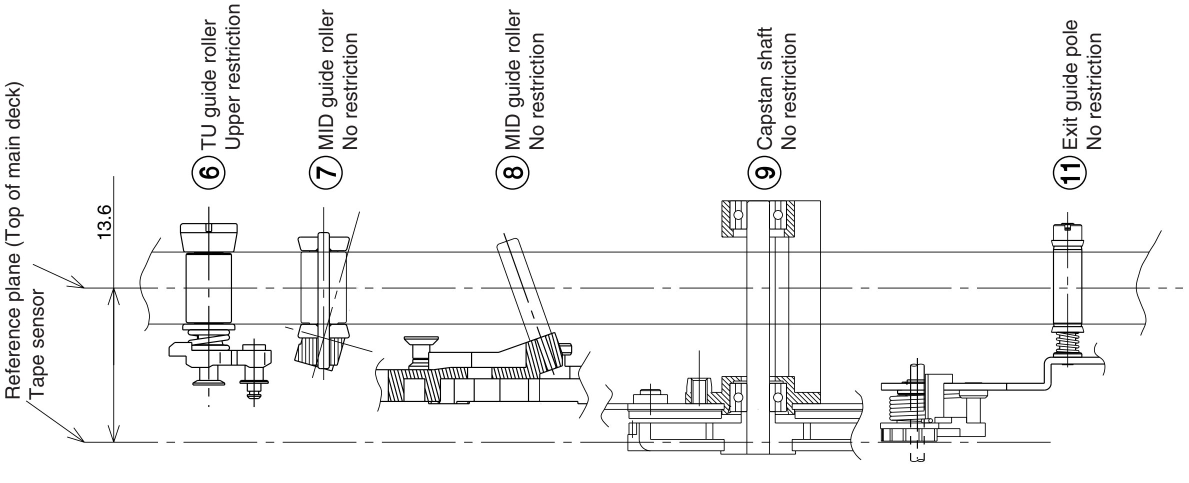
⑥ TU guide roller
⑦ MID guide roller
④ SUP slant pole
③ SP guide roller
② Tension pole
⑤ Drum
⑧ TU slant pole
⑨ Capstan shaft
⑩ Pinch roller
① Entrance guide pole
⑪ Exit guide pole

Fig. 2-12-2



Reference plane (Top of main deck)
Tape sensor
13.6
① Entrance guide pole
No restriction
19.25 ± 0.02
(10.35)
② Tension pole
No restriction
③ SP guide roller
Upper restriction
④ SUP slant pole
No restriction

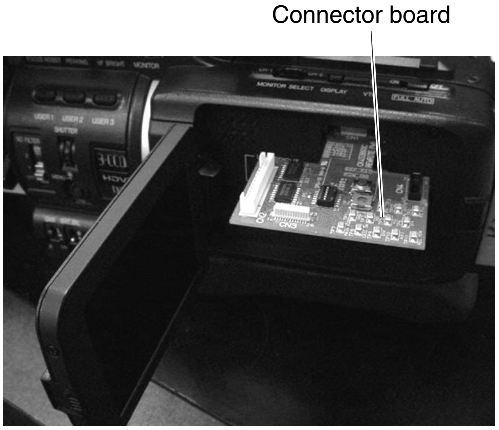
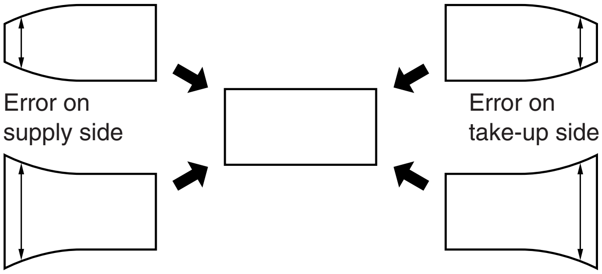
Fig. 2-12-3 Tape Restriction on Supply Side

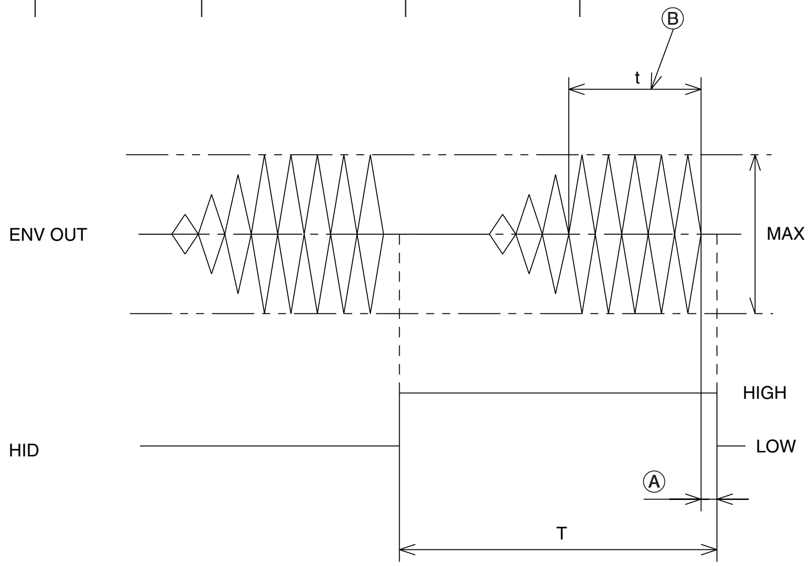


Reference plane (Top of main deck)
Tape sensor
13.6
⑥ TU guide roller
Upper restriction
⑦ MID guide roller
No restriction
⑧ MID guide roller
No restriction
⑨ Capstan shaft
No restriction
⑪ Exit guide pole
No restriction

Fig. 2-12-4 Tape Restriction on Take-up Side

2.12.3 Compatibility adjustment

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	Preparation	 **Fig. 2-12-5 How to mount a connector board**			(1) Mount a connector board to the CN23 on the A/L/S board by inserting it in the slot that is provided to accommodate it. This may be achieved without removing the R. side cover. (See Fig. 2-12-6.) **NOTE** · **Make sure the component surface of the connector board is upside.** **NOTE** · **Be sure to clean the tape transport parts and play a cleaning tape before proceeding to the compatibility adjustment.**
2	RF envelope adjustment	• Oscilloscope, alignment tape MC-1(NTSC) MC-2(PAL) Color bar portion  **Fig. 2-12-6**	Play	◎ TP9 ENV OUT [connector board] ◎ TP5 HID [connector board] ⇧ Supply guide roller ⇧ Take-up guide roller ☆ Make the waveforms flat. The drop level should be less than 3 dB with both SUP and TU levels. ☆ Flatness variation should be less than 2 dB.	(1) Play alignment tape color bar portion. (2) Observe the measuring points and adjust the supply guide roller and take-up guide roller so that the RF waveform is flat. (3) Set the mode to EJECT, then set to the PLAY mode and ensure that the RF waveform is flat.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (↑) Adjustment level (☆)	Adjustment procedure
3	Waveform rise check	• Oscilloscope, alignment tape MC-1(NTSC) MC-2(PAL) Color bar portion	Eject →Play Search FWD →Play Search REV → Play	◎ TP9 ENV OUT [Rewrite board] ◎ TP5 HID [Rewrite board] ☆The envelope waveform should be restored within 1 sec.	(1) Switch the mode from Eject → Play and ensure that the envelope waveform is restored in less than 1 sec. (2) Switch the mode from Search FWD → Play and from Search REV → Play, and ensure that the envelope is restored in less than 1 sec. in both cases. (3) If the waveform does not restore in the specified period, fine-adjust the supply/take-up guide rollers as far as the envelope waveform specification is met, then restart checking from the above procedure 1 again.
4	Damage check	• Self-recorded/ played tape 60ME	Play ↓ Search REV ↓ Search FWD ↓ Play	◎ TP9 ENV OUT [Rewrite board] ◎ TP5 HID [Rewrite board] ☆The tape should not be damaged by wrinkle.	(1) Transport the self-recorded/played tape from the beginning by changing modes in order of Play → Search REV → Search FWD → Play, and ensure that wrinkles due to strong restriction by the guide rollers and guide pole are not produced on tape. (2) Perform the same check at the section near the end of tape. (3) Make sure that no tape damage occurs when a tape is being loaded, unloaded or ejected.
5	Envelope check during FF/REW  **Fig. 2-12-7**	• Oscilloscope, alignment tape MC-1(NTSC) MC-2(PAL) Color bar portion	FF REW	◎ TP9 ENV OUT [Rewrite board] ◎ TP5 HID [Rewrite board] ☆Ⓐ > 55μsec. ☆Ⓑ ≧ T/3	(1) Insert the alignment tape and enter Stop mode. (2) Enter FF mode. (3) Ensure that the envelope output is present at 55 μs before the HID switching timing. (4) Check the take-up side of the envelope to see that the MAX output duration is more than 1/3 the HID duration. **This checking should be done after completing the switching point adjustment.** (5) Enter REW mode and check the same items as (3) and (4) above. (6) If the envelope is out of specification, check the tension band and main brake assembly and replace as required. Confirm the playback switching point.

SECTION 3
ELECTRICAL ADJUSTMENTS

3.1 FUNCTIONS REQUIRED FOR ADJUSTMENTS, SETUP

3.1.1 General instruments necessary for adjustment

Instrument	Condition	Instrument	Condition
Oscilloscope	Calibrated instrument with a measuring bandwidth of 100 MHz or more.	Frequency counter	Instrument calibrated for 8 digits or more. Stability of 0.1 ppm or 1x10^{-7} or better is required at 0 to 40°C.
Vectorscope	Calibrated instrument		
Audio tester	Calibrated instrument	Monitor TV	Color video monitor with a 75Ω video input.

3.1.2 Special implements required for adjustment

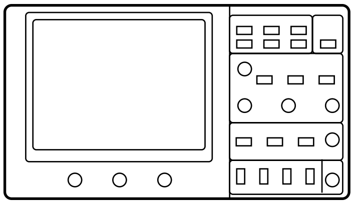
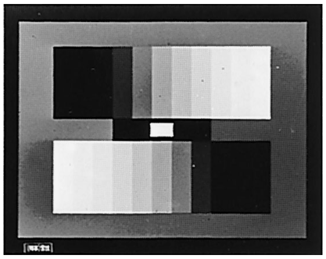
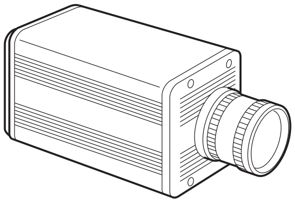
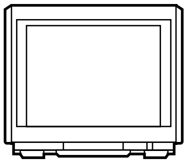
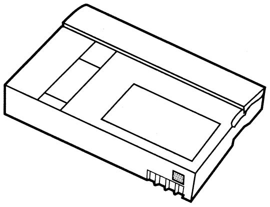
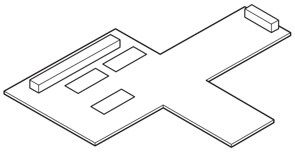
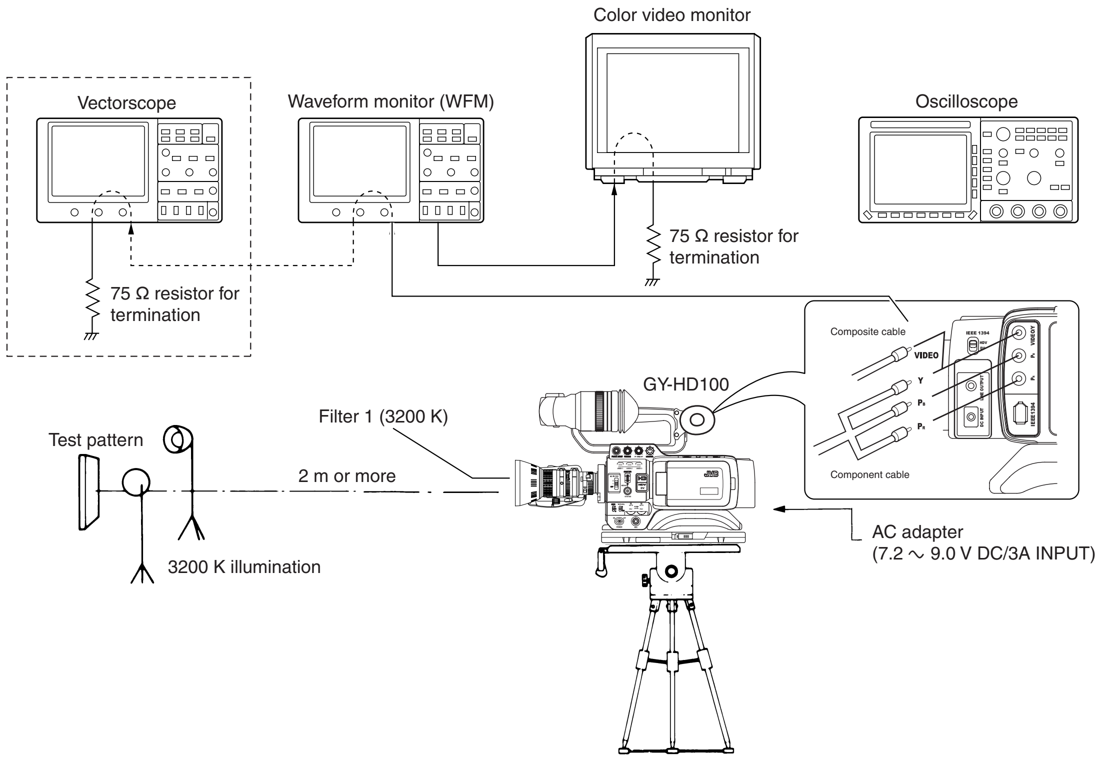
1 Waveform monitor (WFM)	2 Gray scale chart	3 Tripod base
	(Part No.:GS2L) 	Accessory (Model name : KA-551U)
4 Camera and lens	**5 Monitor TV**	**6 Alignment tape**
		MC-1 : NTSC MC-2 : PAL 
7 REWRITE board		
CK453800C 		

Fig. 3-1-1 Special implements required for adjustment

3.2 STANDARD SETUP


Color video monitor
Vectorscope
Waveform monitor (WFM)
Oscilloscope
75 Ω resistor for termination
75 Ω resistor for termination
Composite cable
IEEE 1394
HDV
DV
VIDEO
Y
PB
PR
VIDEO/Y
LINE OUTPUT
DC INPUT
IEEE1394
Component cable
GY-HD100
Filter 1 (3200 K)
Test pattern
2 m or more
3200 K illumination
AC adapter
(7.2 ~ 9.0 V DC/3A INPUT)

Adjustment items

For Camera-1 adjustment

No.	Item name	Adjustment value	Remarks
0	COUNTRY	U_E, I_EC	NTSC & PAL
1	VIDEO MODE CHANGE	NTSC, PAL	NTSC & PAL
2	27MHz CAM	0 to 255	NTSC
3	SENC SDRAM	-	NTSC & PAL
5	FPGA4 VD	0 to 7	NTSC & PAL
6	FPGA4 SDRAM	0 to 15	NTSC & PAL
10	Y LEVEL[COMPOSITE]	0 to 255	NTSC
11	C LEVEL	0 to 255	NTSC & PAL
12	Y LEVEL[COMPONENT]	0 to 255	NTSC
13	B-Y LEVEL	0 to 255	NTSC
14	R-Y LEVEL	0 to 255	NTSC
20	FPGA BLACK[B]	0 to 40	NTSC
21	FPGA BLACK[R]	0 to 40	NTSC
22	MASTER BLACK	0 to 40	NTSC
23	BLACK OFFSET[G]	0 to 63	NTSC & PAL
24	BLACK OFFSET[B]	0 to 63	NTSC & PAL
25	BLACK OFFSET[R]	0 to 63	NTSC & PAL
37	WHITE OFFSET[G]	100 to 143	NTSC & PAL
38	WHITE OFFSET[B]	100 to 143	NTSC & PAL
39	WHITE OFFSET[R]	100 to 143	NTSC & PAL
40	IN GAIN[G]	-	NTSC & PAL
41	IN GAIN[B]	-	NTSC
42	IN GAIN[R]	-	NTSC
43	FLARE[B]	0 to 40	NTSC
44	FLARE[R]	0 to 40	NTSC
45	MASTER FLARE	0 to 20	NTSC
46	CORING[G]L	0 to 63	NTSC & PAL
47	CORING[G]R	0 to 63	NTSC & PAL
48	CORING[B]L	0 to 63	NTSC & PAL
49	CORING[B]R	0 to 63	NTSC & PAL
50	CORING[R]L	0 to 63	NTSC & PAL
51	CORING[R]R	0 to 63	NTSC & PAL
52	BLACK SHADING[G]L	0 to 80	NTSC & PAL
53	BLACK SHADING[G]R	0 to 80	NTSC & PAL
54	BLACK SHADING[B]L	0 to 80	NTSC & PAL
55	BLACK SHADING[B]R	0 to 80	NTSC & PAL
56	BLACK SHADING[R]L	0 to 80	NTSC & PAL
57	BLACK SHADING[R]R	0 to 80	NTSC & PAL

For AUDIO adjustmnt

No.	Item name	Adjustment value	Remarks
60	AUDIO LEVEL[CH1]	-	NTSC
61	AUDIO LEVEL[CH2]	-	NTSC

For LCD & VF adjustment

No.	Item name	Adjustment value	Remarks
70	SUB-BRIGHT[B]	-	NTSC
71	SUB-BRIGHT[R]	-	NTSC
72	CONTRAST	100 to 160	NTSC
73	SUB-CONTRAST[B]	10 to 120	NTSC
74	SUB-CONTRAST[R]	10 to 120	NTSC
75	GAMMA-1	0 to 80	NTSC

For LCD & VF adjustment

No.	Item name	Adjustment value	Remarks
76	GAMMA-2	0 to 80	NTSC
77	PSIG BRIGHT	40 to 120	NTSC
78	COMMON DC	27 to 107	NTSC & PAL
79	HUE	35 to 95	NTSC
80	VCO FINE	0 to 255	NTSC & PAL
81	BLACK LIMITER	0 to 63	NTSC
82	VCO COARSE	1 to 7	NTSC & PAL
83	H-POSITION	2 to 31	NTSC & PAL
84	RESOLUTION	0 to 5	NTSC & PAL
85	VF SUB-BRIGHT[B]	27 to 107	NTSC
86	VF SUB-BRIGHT[R]	27 to 107	NTSC
87	VF CONTRAST	100 to160	NTSC
88	VF SUB-CONTRAST[B]	10 to 120	NTSC
89	VF SUB-CONTRAST[R]	10 to 120	NTSC
90	VF GAMMA-1	0 to 80	NTSC
91	VF GAMMA-2	0 to 80	NTSC
92	VF COM LEVEL	0 to 255	NTSC
93	VF COMMON DC	27 to 107	NTSC & PAL
94	VF HUE	35 to 95	NTSC
95	VF VCOL	0 to 255	NTSC & PAL
96	VF VCOH	0, 1	NTSC & PAL
97	VF H POSITION	0 to 79	NTSC & PAL
98	VF V POSITION	0 to 31	NTSC & PAL
99	VF RESOLUTION	0 to 5	NTSC & PAL

For DVC unit adjustment

No.	Item name	Adjustment value	Remarks
100	PB SW POINT	00000000 to FFFFFFFF	NTSC
101	ME REC CURRENT	0 to 255	NTSC
102	ME SP VCO	0000H to FFFFH	NTSC
103	FS PLL 48kHz	0 to 255	NTSC
104	FS PLL 44.1kHz	0 to 255	NTSC
105	FS PLL 32kHz	0 to 255	NTSC
106	27MHz VCO	0 to 255	NTSC
107	ATF GAIN	0 to 255	NTSC
108	AGC GAIN	0 to 255	NTSC
109	BGNEND SENS	0 to 255	NTSC
110	FWD TORQUE	0 to 255	NTSC

For CAMERA-2 adjustmnt

No.	Item name	Adjustment value	Remarks
200	AFE ALL RESET	CANCEL, EXECUTE	NTSC & PAL
201	H1 START[G]L	0 to 63	NTSC & PAL
202	H1 STOP[G]L	0 to 63	NTSC & PAL
203	H1 START[G]R	0 to 63	NTSC & PAL
204	H1 STOP[G]R	0 to 8	NTSC & PAL
205	RESET START[G]L	34 to 36	NTSC & PAL
206	RESET STOP[G]L	0 to 63	NTSC & PAL

For LCD & VF adjustment

No.	Item name	Adjustment value	Remarks
207	SHP PHASE[G]L	0 to 63	NTSC & PAL
208	SHD PHASE[G]L	0 to 63	NTSC & PAL
209	AD OUT PHASE[G]L	0 to 16	NTSC & PAL
210	RESET START[G]R	34 to 36	NTSC & PAL
211	RESET STOP[G]R	0 to 63	NTSC & PAL
212	SHP PHASE[G]R	0 to 63	NTSC & PAL
213	SHD PHASE[G]R	0 to 63	NTSC & PAL
214	AD OUT PHASE[G]R	0 to 63	NTSC & PAL
221	H1 START[B]L	0 to 63	NTSC & PAL
222	H1 STOP[B]L	0 to 63	NTSC & PAL
223	H1 START[B]R	0 to 63	NTSC & PAL
224	H1 STOP[B]R	0 to 8	NTSC & PAL
225	RESET START[B]L	34 to 36	NTSC & PAL
226	RESET STOP[B]L	0 to 63	NTSC & PAL
227	SHP PHASE[B]L	0 to 63	NTSC & PAL
228	SHD PHASE[B]L	0 to 63	NTSC & PAL
229	AD OUT PHASE[B]L	0 to 63	NTSC & PAL
230	RESET START[B]R	34 to 36	NTSC & PAL
231	RESET STOP[B]R	0 to 63	NTSC & PAL
232	SHP PHASE[B]R	0 to 63	NTSC & PAL
233	SHD PHASE[B]R	0 to 63	NTSC & PAL
234	AD OUT PHASE[B]R	0 to 63	NTSC & PAL
241	H1 START[R]L	0 to 63	NTSC & PAL
242	H1 STOP[R]L	0 to 63	NTSC & PAL
243	H1 START[R]R	0 to 63	NTSC & PAL
244	H1 STOP[R]R	0 to 8	NTSC & PAL
245	RESET START[R]L	34 to 36	NTSC & PAL
246	RESET STOP[R]L	0 to 63	NTSC & PAL
247	SHP PHASE[R]L	0 to 63	NTSC & PAL
248	SHD PHASE[R]L	0 to 63	NTSC & PAL
249	AD OUT PHASE[R]L	0 to 16	NTSC & PAL
250	RESET START[R]R	34 to 36	NTSC & PAL
251	RESET STOP[R]R	0 to 63	NTSC & PAL
252	SHP PHASE[R]R	0 to 63	NTSC & PAL
253	SHD PHASE[R]R	0 to 63	NTSC & PAL
254	AD OUT PHASE[R]R	0 to 63	NTSC & PAL
300	CLAMP ALL REST	CANCEL, EXECUTE	NTSC & PAL
301	CLAMP LEVEL[G]L	0 to 63	NTSC & PAL
302	CLAMP LEVEL[G]R	0 to 63	NTSC & PAL
303	CLAMP LEVEL[B]L	0 to 63	NTSC & PAL
304	CLAMP LEVEL[B]R	0 to 63	NTSC & PAL
305	CLAMP LEVEL[R]L	0 to 63	NTSC & PAL
306	CLAMP LEVEL[R]R	0 to 63	NTSC & PAL

3.3 ADJUSTMENT MENU

3.3.1 Switches and Functions Used in Adjustments

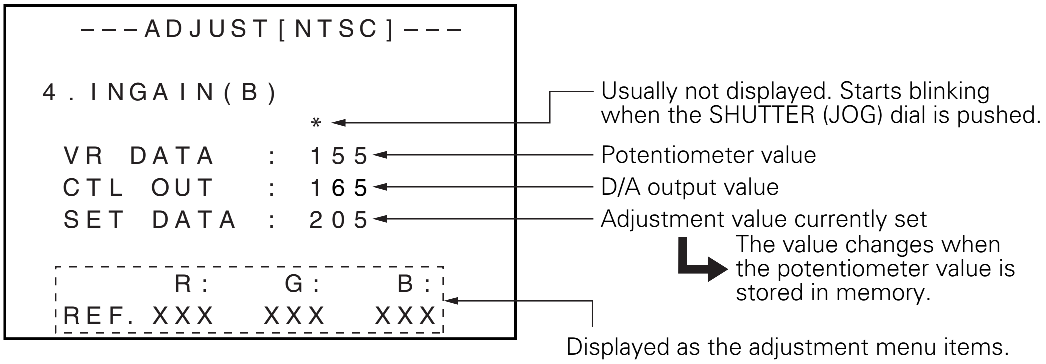
Most of the adjustment items employ microcomputer-controlled adjustments using electric potentiometers. The adjustment data is stored in EEPROM.

The switches used in the adjustments and their functions are as follows.

- MENU (STATUS) button : Press to start or exit from the adjustment menu.
- USER 1 , USER 2 : Press to select the adjustment item.
- JOG (SHUTTER) dial (rotate) : Rotate to adjust the selected item.
- JOG (SHUTTER) dial button (push in) : Press to start an adjustment and store the adjustment value in memory.

3.3.2 Procedure

(1) Turn the power ON, while holding the USER 1 and USER 2 buttons
(2) When the power is ON, press the MENU button to display the ADJUST MENU.
(3) Push the JOG dial button so that "*" blinks, and rotate the JOG dial to the specified value while observing the designated TP and measuring instrument. (In this mode, JOG dial rotate while holding the MENU button, then parameter value change quickly.)
(4) After completing the adjustment, push the JOG dial button to delete the "*" and store the adjustment value in memory. (If do not push the JOG dial button, adjustment value will not stored.)
(5) Press the USER 1 and USER 2 button to select the next item to adjust.
(6) Adjust for each item to do same procedure as above (3)(4).
(7) After completing all adjustments, press the MENU button to exit the ADJUST MENU.
(8) To return to normal operation mode, turn the power OFF and ON again.(If did not re-start camera power, camera will be still in ADJUST MODE, so if press the MENU button then ADJUST MENU indicate on the screen and will not indicate normal menu screen.)


---ADJUST[NTSC]---
4.INGAIN(B)
*
VR DATA : 155
CTL OUT : 165
SET DATA : 205
R: G: B:
REF. XXX XXX XXX
Usually not displayed. Starts blinking when the SHUTTER (JOG) dial is pushed.
Potentiometer value
D/A output value
Adjustment value currently set
The value changes when the potentiometer value is stored in memory.
Displayed as the adjustment menu items.

On-screen adjustment menu

3.3.3 Adjustment mode

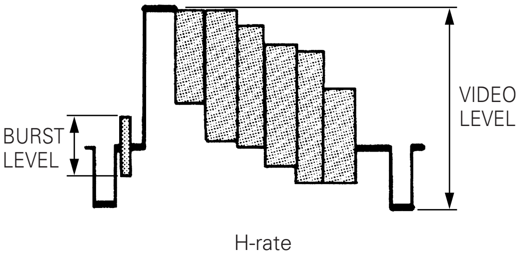
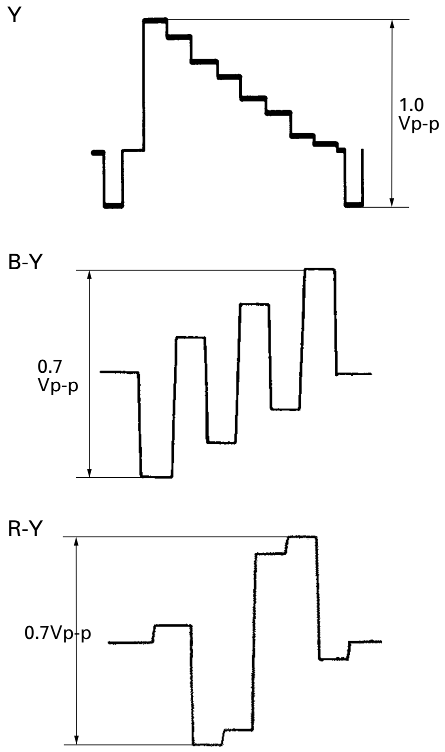
When setting to adjustment mode with the MENU setting status below, an adjustment mode that outputs PAL signal will be set.

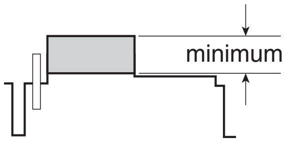
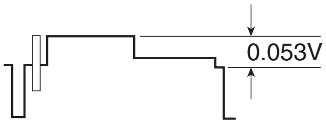
- FRAME RATE : 50/25
- REC : DV-50I

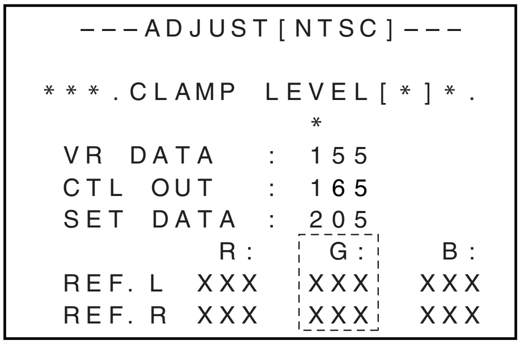
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure

3.4 CAMERA ADJUSTMENTS

3.4.1 Camera adjustments

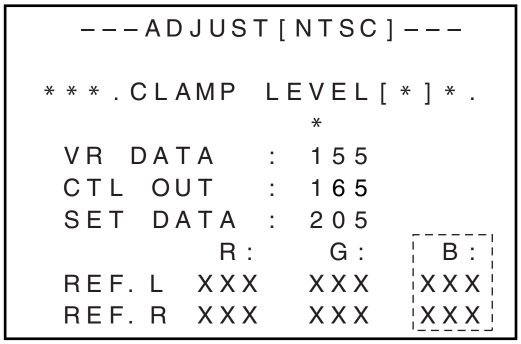
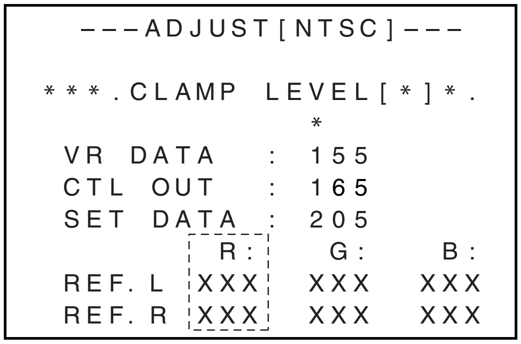
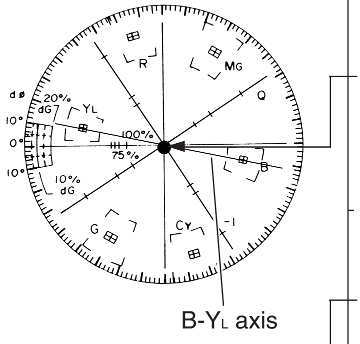
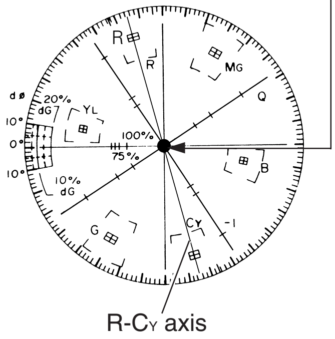
1	FH adjustment	Frequency counter	ADJUST MENU	◎ TP[FH] Rewrite board ⇧ JOG dial ☆ 27,000,000 ± 30Hz	(1) Press the USER 1/2 button to select ADJUST MENU No.2 "27MHz CAM".(Color bar signal will be output automatically) (2) Push the JOG dial button so that "*" blinks, and then rotate the JOG dial to adjust to the specified value. (3) Press the JOG dial to store the adjustment data.
2	ENCODER adjustment (COMPOSITE)	Oscilloscope	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ VIDEO level 1.000Vp-p	(1) Press the USER 1/2 button to select ADJUST MENU No.10 "Y LEVEL (COMPOSITE)" . (2) Rotate the JOG dial to the specified value. (3) Press the JOG dial to store the adjustment data.
				◎ VIDEO OUT ⇧ JOG dial ☆ BURST level NTSC: 0.286 ± 0.015V PAL: 0.300 ± 0.015V	(4) Press the USER 1/2 button to select ADJUST MENU No.11 "LEVEL" . (5) Rotate the JOG dial to the specified value. (6) Press the JOG dial to store the adjustment data.
3	ENCODER adjustment (COMPONENT)	Oscilloscope	ADJUST MENU	◎ Y OUT ⇧ JOG dial ☆ 1.000Vp-p	(1) Press the USER 1/2 button to select ADJUST MENU No.12 "Y LEVEL (COMPONENT)" . (2) Rotate the JOG dial to the specified value. (3) Press the JOG dial to store the adjustment data.
				◎ PB OUT ⇧ JOG dial ☆ B-Y level 0.700 Vp-p	(4) Press the USER 1/2 button to select ADJUST MENU No.13 "B-Y (COMPONENT) LEVEL". (5) Rotate the JOG dial to adjust to the specified value. (6) Press the JOG dial to store the adjustment data.
				◎ PR OUT ⇧ JOG dial ☆ R-Y level 0.700 Vp-p	(7) Press the USER 1/2 button to select ADJUST MENU No.14 "R-Y LEVEL (COMPONENT)". (8) Rotate the JOG dial to adjust to the specified value. (9) Press the JOG dial to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
4	BLACK adjustment	Oscilloscope 	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ Minimize the carrier leak	(1) Press the USER 1/2 button to select ADJUST MENU No.20 "FPGA BLACK (B)". (2) Rotate the JOG dial to adjust to the specified value. (3) Press the JOG dial to store the adjustment data.
				◎ VIDEO OUT ⇧ JOG dial ☆ Minimize the carrier leak	(4) Then, Press the USER 1/2 button to select ADJUST MENU No.21 "FPGA BLACK (R)". (5) Rotate the JOG dial to adjust to the specified value. (6) Press the JOG dial to store the adjustment data.
	MASTER BLACK adjustment	Oscilloscope 	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ 0.053 ± 0.007V	(7) Then, press the USER 1/2 button to select ADJUST MENU No.22 "MASTER BLACK". (8) Rotate the JOG dial to adjust black level to the specified value. **NOTE:** **At first, set the level over than the specified value.** **And adjust the level of left side becomes equal to the specified value.** (9) Press the JOG dial to store the adjustment data.
				◎ VIDEO OUT ☆ Less than 0.03Vp-p	(10) Check the CHROMA signal to confirm that the carrier leakage should be specified level.
5	CLAMP LEVEL adjustmen	Lens cap	ADJUST MENU	◎ LCD monitor ⇧ JOG dial ☆ [G] L Ref.: 127 or 128	(1) Press the USER 1/2 button to select ADJUST MENU No. 301 "CLAMP LEVEL[G]L". (2) Rotate the JOG dial to the specified value. (3) Press the JOG dial to store the adjustment data.



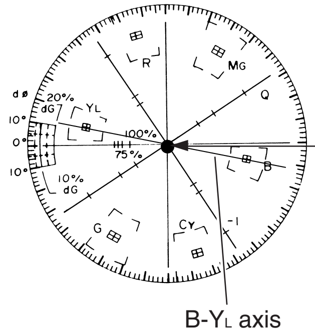
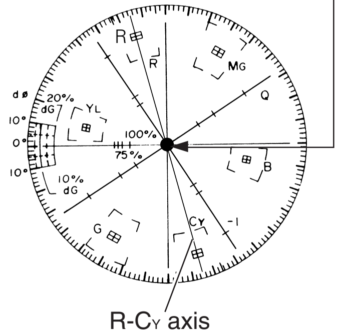
```
---ADJUST[NTSC]---

***.CLAMP LEVEL[*]*.
                  *
 VR DATA   : 155
 CTL OUT   : 165
 SET DATA  : 205
         R:    G:    B:
 REF.L  XXX   XXX   XXX
 REF.R  XXX   XXX   XXX
```

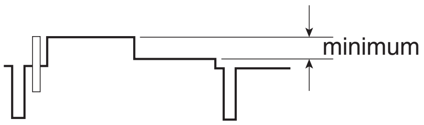
				◎ LCD monitor ⇧ JOG dial ☆ [G] L Ref.: 127 or 128	(4) Press the USER 1/2 button to select ADJUST MENU No. 302 "CLAMP LEVEL[G]R". (5) Rotate the JOG dial to the specified value. (6) Press the JOG dial to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
	 			◎ LCD monitor ⇧ JOG dial ☆ [B] L Ref.: 127 or 128	(7) Press the USER 1/2 button to select ADJUST MENU No. 303 "CLAMP LEVEL[B]L". (8) Rotate the JOG dial to the specified value. (9) Press the JOG dial to store the adjustment data.
				◎ LCD monitor ⇧ JOG dial ☆ [B] R Ref.: 127 or 128	(10) Press the USER 1/2 button to select ADJUST MENU No. 304 "CLAMP LEVEL[B]R". (11) Rotate the JOG dial to the specified value. (12) Press the JOG dial to store the adjustment data.
				◎ LCD monitor ⇧ JOG dial ☆ [R] L Ref.: 127 or 128	(13) Press the USER 1/2 button to select ADJUST MENU No. 305 "CLAMP LEVEL[R]L". (14) Rotate the JOG dial to the specified value. (15) Press the JOG dial to store the adjustment data.
				◎ LCD monitor ⇧ JOG dial ☆ [R] R Ref.: 127 or 128	(16) Press the USER 1/2 button to select ADJUST MENU No. 306 "CLAMP LEVEL[R]R". (17) Rotate the JOG dial to the specified value. (18) Press the JOG dial to store the adjustment data.
6	IN GAIN adjustment	Vectorscope Gray scale chart	ADJUST MENU	◎ LCD display ⇧ Lens Iris ☆ [G] Ref.: 370 ± 5	(1) While shooting the gray scale chart, set the Lens iris so that the [G] ref. data is specified value.
		 B-YL axis		◎ VIDEO OUT ⇧ JOG dial ☆ Position the noise on the B-YL axis at the center of the Vectorscope	(2) Press the USER 1/2 button to select ADJUST MENU No. 41 "IN GAIN(B)". (3) Rotate the JOG dial to the specified value. (4) Press the JOG dial to store the adjustment data.
		 R-CY axis		◎ VIDEO OUT ⇧ JOG dial ☆ Position the noise on the R-CY axis at the center of the Vectorscope	(5) Press the USER 1/2 button to select ADJUST MENU No. 42 "IN GAIN(R)". (6) Rotate the JOG dial to the specified value. (7) Press the JOG dial to store the adjustment data.
				◎ VIDEO OUT ⇧ JOG dial ☆ Position the noise at the center of the Vectorscope carrier leak: less than 0.03V	(8) Repeat the adjustment from (1) to (6) avobe, adjust such that the position the noise becomes center of the Vectorscope. (9) Check the carrier leak of white window portion is specified value.

```
---ADJUST[NTSC]---

***.CLAMP LEVEL[*]*.
                *
 VR DATA   : 155
 CTL OUT   : 165
 SET DATA  : 205
       R:    G:    B:
 REF.L XXX  XXX  XXX
 REF.R XXX  XXX  XXX
```

```
---ADJUST[NTSC]---

***.CLAMP LEVEL[*]*.
                *
 VR DATA   : 155
 CTL OUT   : 165
 SET DATA  : 205
       R:    G:    B:
 REF.L XXX  XXX  XXX
 REF.R XXX  XXX  XXX
```

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
7	FLARE adjustment	Vectorscope Gray scale chart	ADJUST MENU	◎ LCD display ⇧ Lens Iris ☆ Video level: 200%	(1) While shooting the gray scale chart, set the Lens iris so that the [G] ref. data is 370 ± 5. (2) Then, open the Lens iris by one step.
		 R MG Q dø 20% dG YL 10° 0° 100% 75% B 10% dG G CY -I $B-Y_L$ axis		◎ VIDEO OUT ⇧ JOG dial ☆ Position the noise on the $B-Y_L$ axis at the center of the Vectorscope	(3) Press the USER 1/2 button to select ADJUST MENU No. 43 "FPGA FRARE(B)". (4) Rotate the JOG dial to the specified value. (5) Press the JOG dial to store the adjustment data.
		 R R MG Q dø 20% dG YL 10° 0° 100% 75% B 10% dG G CY -I $R-C_Y$ axis		◎ VIDEO OUT ⇧ JOG dial ☆ Position the noise on the $R-C_Y$ axis at the center of the Vectorscope	(6) Press the USER 1/2 button to select ADJUST MENU No. 44 "FPGA FRARE(R)". (7) Rotate the JOG dial to the specified value. (8) Press the JOG dial to store the adjustment data.
				◎ VIDEO OUT ⇧ JOG dial ☆ Position the noise at the center of the Vectorscope carrier leak: less than 0.03V	(9) Repeat the adjustment from (3) to (8) avobe, adjust such that the position the noise becomes center of the Vectorscope. (10) Check the carrier leak of white black portion is specified value.
8	MASTER FRARE adjustment	–	ADJUST MENU	◎ LCD display ⇧ JOG dial ☆ VR DATA: 15	(1) Press the USER 1/2 button to select ADJUST MENU No. 45 "MASTER FRARE(B)". (2) Rotate the JOG dial to the specified value. (3) Press the JOG dial to store the adjustment data.
9	COREING [G] adjustment	Oscilloscope	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ Noise level on the left and right sides of the screen should have same.	(1) Press the USER 1/2 button to select ADJUST MENU No. 46 "COREING[G]L" or ADJUST MENU No. 47 "COREING[G]R". (2) Rotate the JOG dial to the specified value. (3) Press the JOG dial to store the adjustment data.
10	COREING [B] adjustment	Oscilloscope	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ Noise level on the left and right sides of the screen should have same.	(1) Press the USER 1/2 button to select ADJUST MENU No. 48 "COREING[B]L" or ADJUST MENU No. 49 "COREING[B]R". (2) Rotate the JOG dial to the specified value. (3) Press the JOG dial to store the adjustment data.
11	COREING [R] adjustment	Oscilloscope	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ Noise level on the left and right sides of the screen should have same.	(1) Press the USER 1/2 button to select ADJUST MENU No. 50 "COREING[R]L" or ADJUST MENU No. 51 "COREING[R]R". (2) Rotate the JOG dial to the specified value. (3) Press the JOG dial to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
12	BLACK L/R OFFSET adjustment	Oscilloscope	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ The black level on the left and right side of the screen should have same level	(1) Press the USER 1/2 button to select ADJUST MENU No. 23 “BLACK OFFSET (G)”. (2) Rotate the JOG dial to the specified value. (3) Press the JOG dial to store the adjustment data.
		Oscilloscope  	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ The black level on the left and right side of the screen should have same level	(4) Press the USER 1/2 button to select ADJUST MENU No. 24 “BLACK OFFSET (B)”. (5) Rotate the JOG dial to the specified value. (6) Press the JOG dial to store the adjustment data.
				◎VIDEO OUT ⇧ JOG dial ☆ The black level on the left and right side of the screen should have same level	(7) Press the USER 1/2 button to select ADJUST MENU No. 25 “BLACK OFFSET (R)”. (8) Rotate the JOG dial to the specified value. (9) Press the JOG dial to store the adjustment data.
				◎ VIDEO OUT ⇧ JOG dial ☆ The black level on the left and right side of the screen should have same level	(10) Repeat the adjustment from (4) to (9) above, adjust such that the right and left sides of the vectorscope become equal.
13	CROSS TALK adjustment	Monitor TV Point light source (incandescent lamp of more than 40W)	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ The level at the edge on the right screen should not be obvious.	(1) Press the USER 1/2 button to select ADJUST MENU No. 249 "AD OUTPUT PHASE (R)L". (2) Set to a dark background and take photo such that the point light source appears on the left of the screen. (3) Rotate the JOG dial to the specified value. (4) Press the JOG dial to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇡) Adjustment level (☆)	Adjustment procedure
14	WHITE L/R OFFSET [G]	Oscilloscope Gray scale chart	ADJUST MENU	◎ VIDEO OUT ⇡ Lens IRIS ☆ Video level : 0.98 V (95IRE)	(1) Adjust the lens iris so that the white level on the gray scale chart is specified value.
		Oscilloscope Monitor TV	ADJUST MENU	◎ VIDEO OUT ⇡ JOG dial	(2) Press the USER 1/2 button to select ADJUST MENU No. 37 “WHITE OFFSET (G)”. (3) Rotate the JOG dial to the specified value. (4) Press the JOG dial to store the adjustment data.
	LINEARITY adjustment	Oscilloscope Gray scale chart	ADJUST MENU	◎ VIDEO OUT ⇡ Lens IRIS ☆ The level difference between left and right should be maximum	(1) Press the USER 1/2 button to select ADJUST MENU No. 205 "RESET START (G)L". (2) While shooting the gray scale chart, set the Lens iris so that the video out level is specified value.
				◎ VIDEO OUT ⇡ JOG dial ☆ The step levels of left and right should be the same.	(3) Rotate the JOG dial to the specified value. (4) Press the JOG dial to store the adjustment data. **NOTE:** **When the adjustment cannot be made, change the value of ADJUST MENU No. 210 "RESET START [G]R", readjust (1) to (4) such that the level difference becomes minimum.**
					(5) When the adjustments of No. WHITE OFFSET and No. LINEARITY cannot be made, change the setting of ADJUST MENU No. 204 "H1 STOP (G)R" to the sequence as shown below and readjust the 2 adjustments above. Initial setting "5" → "6" → "7" → "4".

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
15	WHITE L/R OFFSET [B]	Oscilloscope Gray scale chart	ADJUST MENU	◎ VIDEO OUT ⇧ Lens IRIS ☆ Adjust such that the 100 % white portion of the color bar and the white portion of the gray scale have same level.	(1) Adjust the lens iris so that the white level on the gray scale chart is specified value.
		Oscilloscope Monitor TV	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ Eliminate the gap of the H rate output waveform, and no line should be seen at the center of the monitor TV screen.	(2) Press the USER 1/2 button to select ADJUST MENU No. 38 "WHITE OFFSET (B)". (3) Rotate the JOG dial to the specified value. (4) Press the JOG dial to store the adjustment data.
	LINEARITY adjustment	Oscilloscope Gray scale chart	ADJUST MENU	◎ VIDEO OUT ⇧ Lens Iris ☆ The level difference between left and right should be maximum	(1) Press the USER 1/2 button to select ADJUST MENU No. 225 "RESET START (B)L". (2) While shooting the gray scale chart, set the Lens iris so that the video out level is specified value.
				◎ VIDEO OUT ⇧ JOG dial ☆ The step levels of left and right should be the same.	(3) Rotate the JOG dial to the specified value. (4) Press the JOG dial to store the adjustment data. **NOTE:** **When the adjustment cannot be made, change the value of ADJUST MENU No. 230 "RESET START [B]R", readjust (1) to (4) such that the level difference becomes minimum.**
					(5) When the adjustments of No. WHITE OFFSET and No. LINEARITY cannot be made, change the setting of ADJUST MENU No. 224 "H1 STOP (G)R" to the sequence as shown below and readjust the 2 adjustments above. Initial setting "5" → "6" → "7" → "4".

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
16	WHITE L/R OFFSET [R]	Oscilloscope Gray scale chart	ADJUST MENU	◎ VIDEO OUT ⇧ Lens IRIS ☆ Adjust such that the 100 % white portion of the color bar and the white portion of the gray scale have same level.	(1) Adjust the lens iris so that the white level on the gray scale chart is specified value.
		Oscilloscope Monitor TV	ADJUST MENU	◎ VIDEO OUT ⇧ JOG dial ☆ Eliminate the gap of the H rate output waveform, and no line should be seen at the center of the monitor TV screen.	(2) Press the USER 1/2 button to select ADJUST MENU No. 39 “WHITE OFFSET (R)”. (3) Rotate the JOG dial to the specified value. (4) Press the JOG dial to store the adjustment data.
	LINEARITY adjustment	Oscilloscope Gray scale chart	ADJUST MENU	◎ VIDEO OUT ⇧ Lens Iris ☆ The level difference between left and right should be maximum	(1) Press the USER 1/2 button to select ADJUST MENU No. 245 "RESET START (R)L". (2) While shooting the gray scale chart, set the Lens iris so that the video out level is specified value. **NOTE:** **When the adjustment cannot be made, change the value of ADJUST MENU No. 250 "RESET START [R]R", readjust (1) to (4) such that the level difference becomes minimum.**
				◎ VIDEO OUT ⇧ JOG dial ☆ The step levels of left and right should be the same.	(3) Rotate the JOG dial to the specified value. (4) Press the JOG dial to store the adjustment data.
					(5) When the adjustments of No. WHITE OFFSET and No. LINEARITY cannot be made, change the setting of ADJUST MENU No. 244 "H1 STOP (G)R" to the sequence as shown below and readjust the 2 adjustments above. Initial setting "5" → "6" → "7" → "4".

3.4.2 AUDIO adjustment

Audio adjustments are required to input the test signal from LINE input.
All switches and VR's should be set the position as below table.

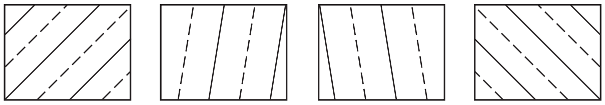
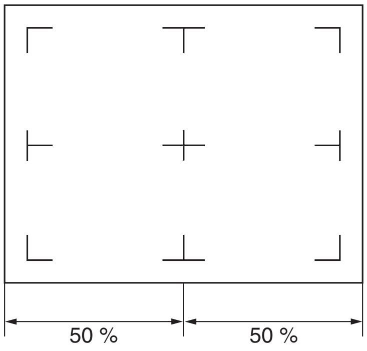
AUDIO INPUT (INPUT1/INPUT2) : LINE
CH2 INPUT : INPUT 2
AUDIO REF.LEVEL (MENU) : –20dB
OUTPUT CHARACTOR (MENU) : ON
TEST TONE (MENU) : OFF

AUDIO MODE (MENU) : 48k
AUDIO SELECT : MANUAL
MONITOR SELECT : BOTH
WIND CUT (MENU) : OFF

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	INPUT LEVEL setting	Audio tester 1KHz/+4dBs	Camera mode	◎ LINE OUT ⇧ AUDIO LEVEL VR ☆ -8dBs	(1) Input the test signal (1KHz /+4dBs) to the LINE input, adjust the adjustment point to the specified level.
2	Audio level meter adjustment	1KHz/+4dBs	Camera mode LCD should be Spread indication ADJUST MENU No.60 : AUDIO LEVEL (CH-1) No.61 : AUDIO LEVEL (CH-2)	◎ LCD MONITOR (Audio level meter) ⇧ Auto adjustment ☆ -20dBs	(1) This adjustment item should be do after complete the INPUT LEVEL setting. (2) Press the USER 1/2 button to select ADJUST MENU No.60 "AUDIO LEVEL (CH1)". (3) Press the JOG dial to display (blink) the * mark on the adjustment screen. (4) Press the JOG dial again to clear the * mark display. (5) Press the USER1 button to select ADJUST MENU No.61 "AUDIO LEVEL (CH2). (6) Perform the adjustment using steps same as (3) and (4) above. (7) Turn off the power once and turn it on again. (8) Press the DISPLAY button to select enlarged display for the LCD level meter. (9) Check that the LCD level meter is lit to the level of –20dB.

3.4.3 MONITOR LCD adjustment

For the MONITOR LCD adjustment, the following adjustment are required only. Other adjustment items should be default value.

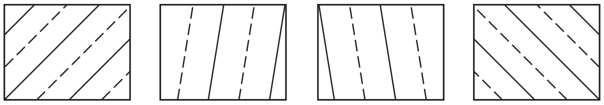
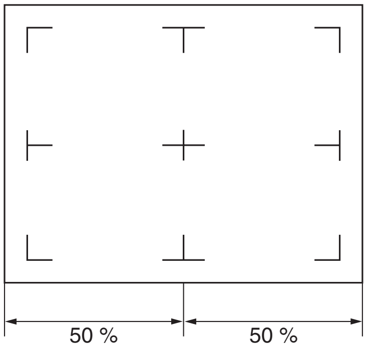
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	COMMON DC adjustment	—	ADJUST MENU	◎ MONITOR LCD ⇧ JOG dial ☆ Minimize the flicker	(1) Press the USER 1/2 button to select ADJUST MENU No.78,"COMMON DC". (2) Set the MONITOR LCD to field invert mode, rotate the JOG dial to adjust to the specified level. (3) Press the JOG dial to store the adjustment data.
2	VCO adjustment	— 	ADJUST MENU	◎ MONITOR LCD ⇧ JOG dial ☆ Most stable point for monitor screen	(1) Press the USER 1/2 button to select ADJUST MENU No.80."VCO FINE". (2) Rotate the JOG dial to adjust to the specified level. **NOTE:** **If adjustment cannot be done, change ADJUST MENU No. 82 "VCO COARSE" to 3 or 5 and readjust.** (3) Press the JOG dial to store the adjustment data.
3	H-POSITION adjustment	Gray scale chart 	ADJUST MENU	◎ MONITOR LCD ⇧ JOG dial ☆ Screen centering	(1) Press the USER 1/2 button to select ADJUST MENU No.83,"H POSITION". (2) Rotate the JOG dial to adjust the marker to horizontal center of the screen. (3) Press the JOG dial to store the adjustment data.

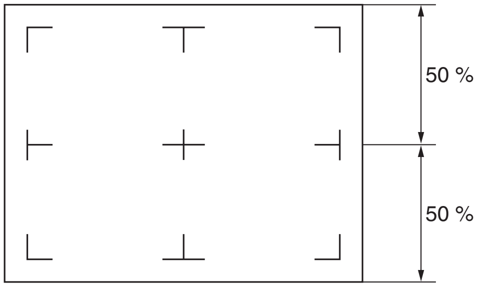
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
4	SUB BRIGHT adjustment	Oscilloscope		◎ LCD display ☆ Y level Should be 200 mV ~ 400 mV.	(1) Shoot the LCD Screen using other cameras. (2) Check the camera output taken from the LCD Screen using a oscilloscope. (3) Check that the minimum level is above 200 mV and the maximum level is above 400 mV.
		Vectorscope	ADJUST MENU	◎LCD display ⇧ JOG dial ☆ Position the noise on the B-YL axis at the center of the vectorscope.	(4) Press the USER 1/2 button to select ADJUST MENU No. 70 "SUB BRIGHT (B)". (5) Rotate the JOG dial to the specified value. (6) Press the JOG dial to store the adjustment data.
				◎LCD display ⇧ JOG dial ☆ Position the noise on the R-CY axis at the center of the vectorscope.	(7) Press the USER 1/2 button to select ADJUST MENU No. 71 "SUB BRIGHT (R)". (8) Rotate the JOG dial to the specified value. (9) Press the JOG dial to store the adjustment data.
				◎LCD display ⇧ JOG dial ☆ Position the noise at the center of the vectorscope.	(10) Repeat the adjustment from (4) to (9) above, adjust such that the right and left sides of the vectorscope become equal.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure

3.4.4 VIEWFINDER adjustment

For the VIEWFINDER adjustment, the following adjustment are required only. Other adjustment items should be default value.

1	VF COMMON DC adjustment		ADJUST MENU	◎ VIEWFINDER ⇧ JOG dial ☆ Minimize the flicker	(1) Press the USER 1/2 button to select ADJUST MENU No.93,"VF COMMON DC". (2) Rotate the JOG dial to adjust to the specified level. (3) Press the JOG dial to store the adjustment data.
2	VF VCO adjustment		ADJUST MENU	◎ VIEWFINDER ⇧ JOG dial ☆ Most stable point for monitor screen	(1) Press the USER 1/2 button to select ADJUST MENU No.95."VF VCO L". (2) Rotate the JOG dial to adjust to the specified level. **NOTE:** **If adjustment cannot be done, change ADJUST MENU No. 96 "VF VCO H" to 3 or 5 and readjust.** (3) Press the JOG dial to store the adjustment data.
3	VF H-POSITION adjustment	Gray scale chart 	ADJUST MENU	◎ VIEWFINDER ⇧ JOG dial ☆ Screen centering	(1) Press the USER 1/2 button to select ADJUST MENU No.97,"VF H POSITION". (2) Rotate the JOG dial to adjust the marker to horizontal center of the screen. (3) Press the JOG dial to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
4	VF V-POSITION adjustment	Gray scale chart	ADJUST MENU	◎ VIEWFINDER ⇧ JOG dial ☆ Screen centering 	(1) Press the USER 1/2 button to select ADJUST MENU No.98 “VF V POSITION”. (2) Shooting the Grey scale chart and rotate the JOG dial to adjust the white part in the middle of Grayscale so that it is at the center of the screen. (3) Press the JOG dial to store the adjustment data.
5	VF SUB BRIGHT adjustment	Oscilloscope		◎ View Finder ⇧ VF BRIGHT level ☆ Y level The maximum level should be 500 mV.	(1) Shoot the View Finder using other cameras. (2) Check the camera output taken from the View Finder using a oscilloscope. (3) Check that the maximum level is shown around the center of V rate. (4) Adjust such that the maximum level is above 500 mV.
		Vectorscope	ADJUST MENU	◎ View Finder ⇧ JOG dial ☆ Position the noise on the B-YL axis at the center of the vectorscope.	(5) Press the USER 1/2 button to select ADJUST MENU No. 85 “VF SUB BRIGHT (B)”. (6) Rotate the JOG dial to the specified value. (7) Press the JOG dial to store the adjustment data.
				◎ View Finder ⇧ JOG dial ☆ Position the noise on the R-CY axis at the center of the vectorscope.	(8) Press the USER 1/2 button to select ADJUST MENU No. 86 “VF SUB BRIGHT (R)”. (9) Rotate the JOG dial to the specified value. (10) Press the JOG dial to store the adjustment data.
				◎ View Finder ⇧ JOG dial ☆ Position the noise at the center of the vectorscope.	(11) Repeat the adjustment from (5) to (10) above, adjust such that the right and left sides of the vectorscope become equal.

3.5 DVC UNIT ADJUSTMENTS

Preparation : Connect the Rewrite board (CK453800C) to CN801 on the DBCD board. Connect it in the orientation shown in Fig. 3.4, so that the test point surface (component mounting surface) faces upward.

> **NOTE:**
> **When adjusting this item, set the MODE switch to VTR.**

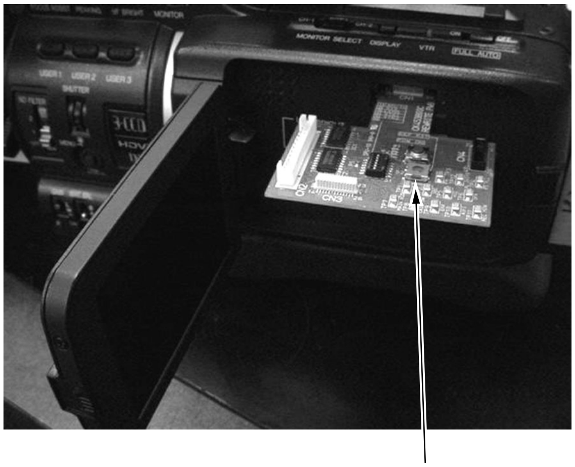
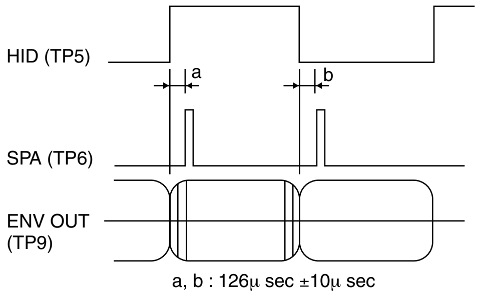


Fig. 3.4 Rewrite board connection method

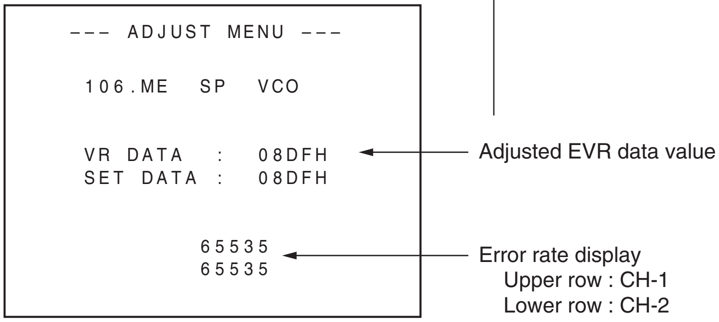
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	PB switching point adjustment  HID (TP5) a b SPA (TP6) ENV OUT (TP9) a, b : 126μ sec ±10μ sec	Alignment tape, NTSC : MC-1, PAL : MC-2 color bar recorded section	• PLAY • ADJUST MENU, 100. PB SW POINT	◎ TP6 (SPA) ◎ TP9 (ENV OUT) TRIG: TP5 (HID) GND: TP1 (GND) [Rewrite board] ⇧ Auto adjustment ☆ a, b = 126 μs sec ± 10 μs sec	(1) Press the EDIT USER 1/2 button to select ADJUST MENU No. 100, "PB SW POINT". (2) Play the alignment tape. Ensure that the compatibility adjustment has been performed and the FM waveform at TP9 (ENV OUT) is flat and stable. (3) Press the JOG dial to cause the * marking to blink. The PB switching point will be adjusted automatically.
					(4) Measure TP6 (SPA) by triggering TP5 (HID) and confirm that the values a and b are within the specified ranges. (5) Rotate the JOG dial to display the adjustment data in the "DATA:" field. (The DATA value should not be 00000000 or FFFFFFFF.) (6) Press the [JOG] button so that the * marking stops blinking. Now the adjustment is complete. **NOTE:** **Make sure that the data value is displayed before pressing the JOG dial. If this adjustment is completed before the data value is displayed the adjustment value will not be put into the memory.**

```
--- ADJUST MENU ---

100.PB  SW  POINT
              *
VR DATA  :  ----
CTL DATA :  120
SET DATA :  120


DATA : 00000000
```

Rotate the JOG dial to display data.

After displaying the data, press the JOG dial to complete the adjustment.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
2	ME SP VCO [Error rate adjustment]	Oscilloscope Self-recording tape	• Self-REC/ PLAY • ADJUST MENU No.102	◎ TP2 (SBE) [REWRITE BOARD] ⇧ JOG dial ☆ Minimum error rate, which should be = 498 or less (per CH)	Note: **• Be sure to use a brand-new tape for this adjustment.** **• Be sure to clean the drum with a head cleaning tape before adjustment.** **• The error rate should be mesured with the Viterbi OFF. The Viterbi is set to OFF automatically when the adjustment mode is entered.** (1) Prior to the procedure below, prepare self-recording tape. (2) Select "102. ME SP VCO" adjustment. (3) Play back the self recording tape, and decrease the VR DATA to make the SBE waveform abnormal. (Fig. 3.5.2(2)) (Pressing the [STATUS] button simultaneously with the JOG dial varies the adjustment value by ±10 steps) (4) Increase the adjustment VR DATA little by little, and define the point where the SBE waveform becomes normal as value "A". (Fig. 3.5.2(3)) (5) Increase the adjustment VR DATA to make the SBE waveform abnormal. (Fig. 3.5.2(2)) (6) Decrease the adjustment VR DATA little by little, and define the point where the SBE waveform becomes normal as "B". (Fig. 3.5.2(3)) (7) Calculate the intermediate value "C" between the point A and the point B, and set the value C. (Since the adjustment values are hex number, use a functional computation-capable calculator or the PC calculator provided in Accessories.) **Setting value C=(A+B)/2** (8) Confirm that the error rate value is 498 or less in each channel. (9) Check the tolerance of adjustment. Shift the adjustment value against the setting value by ±60h. Conform that the error rate is 3,000 or less in each channel. When the error rate is over 3,000, recheck the adjustment procedure from (4). (For example, when the adjustment value is "9ED", ±60h is "A4D" and "98D". So, shift the value to "A4D" and "98D", and check the tolerance of error rate adjustment.) (10) Return the adjustment value to the setting value C, and Press the JOG dial to store the adjustment data.



```
--- ADJUST MENU ---

106.ME  SP  VCO

VR  DATA  :  08DFH
SET  DATA :  08DFH

          65535
          65535
```

Fig. 3.5.2 (1) SP VCO Menu

SBE waveform (abnormal)
Bright parts appear randomly on the waveform.

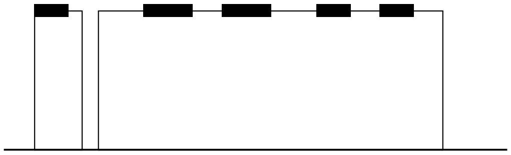


Fig. 3.5.2 (2)

SBE waveform (abnormal)
Narrow pulse trains appear uniformly Brightness is low.

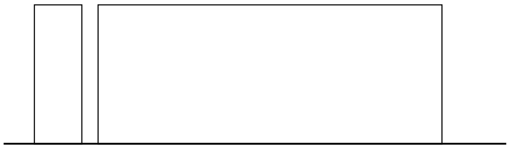


Fig. 3.5.2 (3)

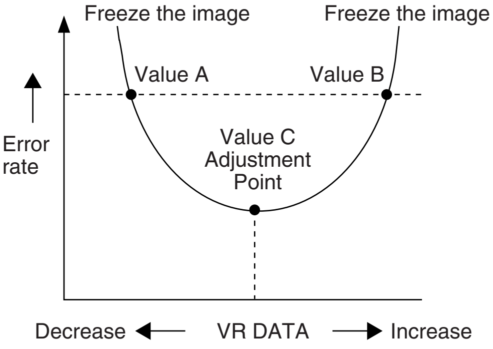


Fig. 3.5.2 (4) Consept of the adjustment

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
3	FS PLL 48 kHz adjustment	No input. Frequency counter	EE ADJUST MENU,110. FS PLL 48 kHz	◎ TP4 (FS PLL) GND: TP1 (GND) [Rewrite board] ⇧ JOG dial ☆ 12.288 MHz ± 0.1 MHz	(1) Press the USER 1/2 button to select ADJUST MENU No. 103, "FS PLL 48 kHz". (2) Adjust the frequency to the specified level. (3) Press the JOG dial to store the adjustment data.
4	FS PLL 44.1 kHzHz adjustment	No input Frequency counter	EE ADJUST MENU, 111. FS PLL 44.1 kHz	◎ TP4 (FS PLL) GND: TP1 (GND) [Rewrite board] ⇧ JOG dial ☆ 11.2896 MHz ± 0.1 MHz	(1) Press the USER 1/2 button to select ADJUST MENU No. 104, "FS PLL 44.1 kHz". (2) Adjust the frequency to the specified level. (3) Press the JOG dial to store the adjustment data.
5	27 MHz VCO center frequency adjustment	No input. Frequency counter	EE ADJUST MENU,113. 27 MHz VCO	◎ TP7 (MAIN VCO) GND: TP1 (GND) [Rewrite board] ⇧ JOG dial ☆ 13.5 MHz ± 0.1 MHz	(1) Press the USER 1/2 button to select ADJUST MENU No. 106, "27 MHz VCO". (2) Adjust the frequency to the specified level. (3) Press the JOG dial to store the adjustment data.

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Printed in Japan
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SECTION 5
EXPLODED VIEW AND PARTS LIST

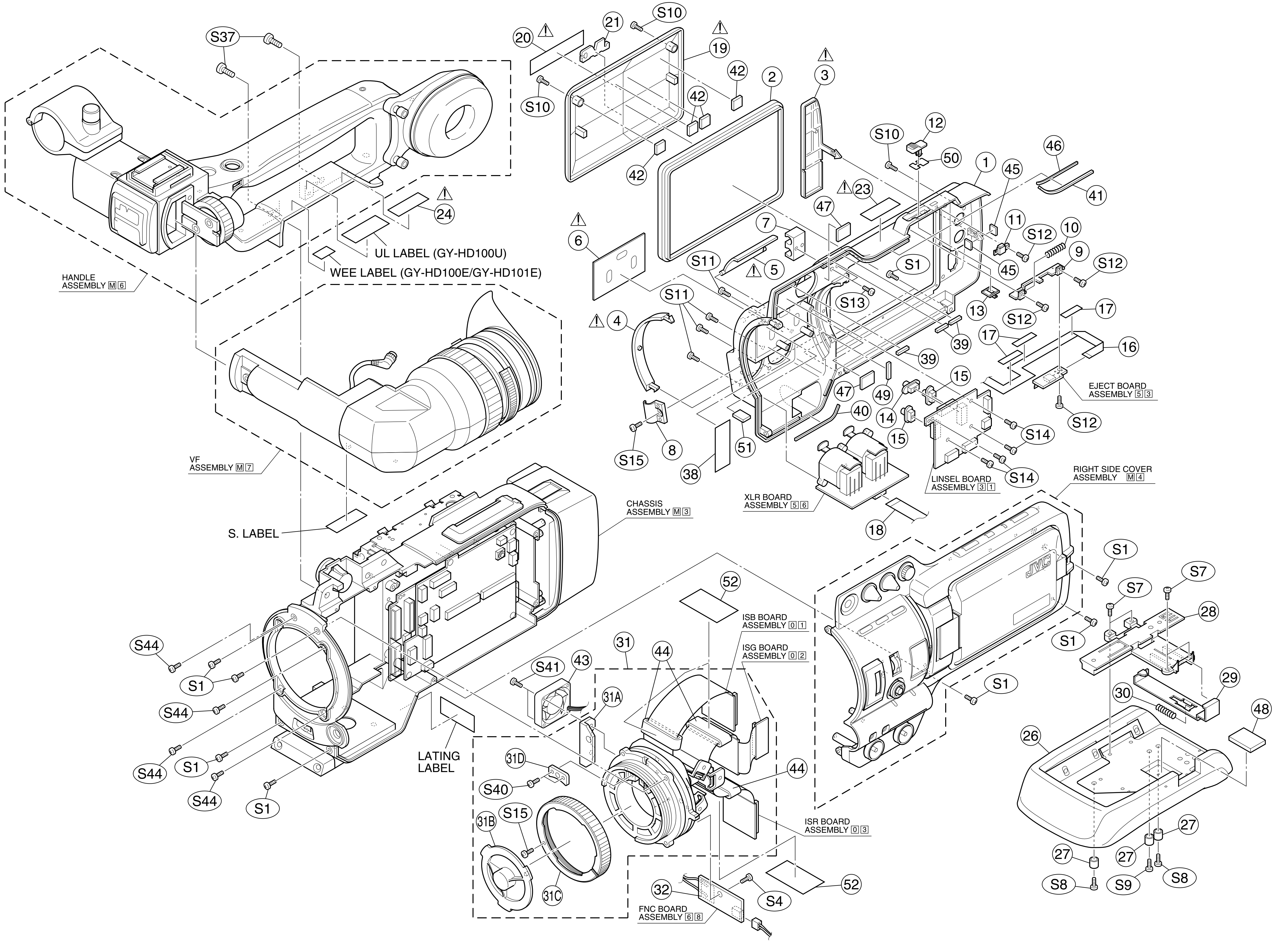
- **SAFETY PRECATION**
  Parts identified by the ⚠ symbol are critical for safety.
  Replace only with specified parts numbers.
- **NOTE**
  Parts not denoted by parts numbers are not supplied by JVC.

■ CABINET ASSEMBLY PARTS LIST M 2

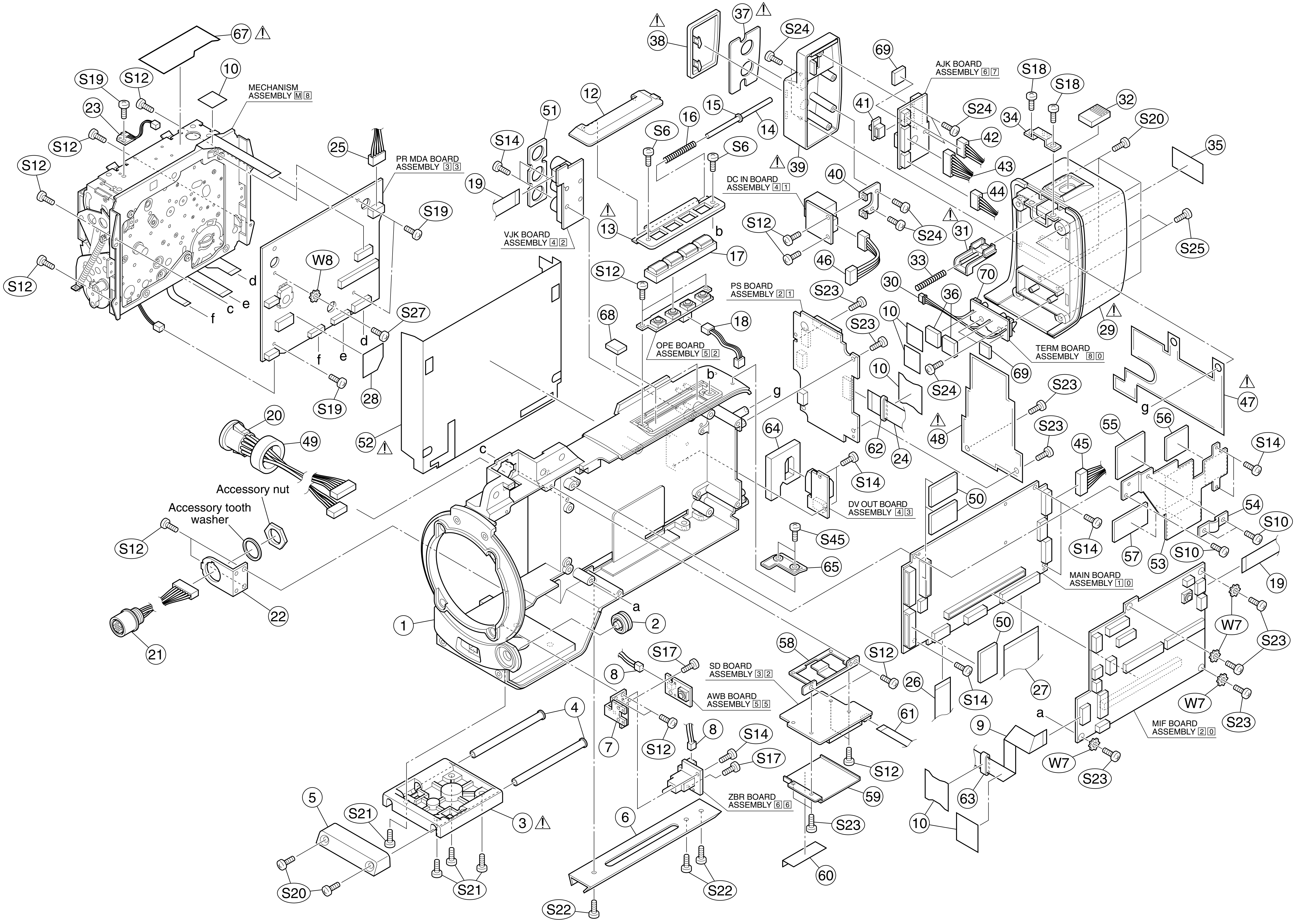
M 2 M M ☐☐☐☐

Symbol No.	Part No.	Part Name	Description
1	LW10102-001C	LEFT SIDE COVER	
2	LW30611-001C-H	PACKING	
⚠ 3	LW30561-001C-H	COVER(JACK)	
⚠ 4	LW30562-001A-H	COLLAR	
⚠ 5	LW30556-001B-H	COVER(SD)	
⚠ 6	LW40823-001A-H	SHEET(AUDIO)	
7	SC42550H-011	CABLE HOLDER	
8	SC46668H-001	CABLE HOLDER	
9	LW30560-001B-H	EJECT BRACKET	
10	LW40822-001B-H	SPRING	
11	LW40821-001A-H	WINDOW(EJECT)	
12	LW30558-001A-H	EJECT KNOB	
13	LW30559-002A-H	EJECT HOLDER	
14	LW40163-001A-H	SLIDE KNOB1	
15	LW40164-001A-H	SLIDE KNOB2	x2
16	QUQ105-0622AA-E	FFC WIRE	
17	LW40916-001A-H	A.D.C.TAPE	x3
18	QUQ105-1304AA-E	FFC WIRE	
⚠ 19	LW20182-001A-H	OUTER COVER	
⚠ 20	LW40820-001A-H	PLATE	GY-HD100U/GY-HD100E
⚠ 20	LW40820-002A-H	PLATE	GY-HD101E
21	LW40840-001B	MARK(JVC)	
⚠ 23	SC46608-021	CAUTION LABEL	
⚠ 24	SC46171H-001	WARNING LABEL	GY-HD100E/GY-HD101E
26	LW10107-001B	SHOULDER PAD	
27	LW40450-001A-H	SPACER	x3
28	LW20180-001B-H	SLIDE BASE	
29	LW40864-001B-H	PUSH PLATE	
30	LW40865-001A-H	COMPRESS SPRING	
31	SCM1388-002A	OPTICAL ASSEMBLY	
31A	LS40581-001A-H	FAN BRACKET	
31B	LW40881-001A-H	LENS CAP	
31C	LW30605-001A	PING	
31D	SC45853-001	LENS PLATE	
32	LS40543-002A	FELT SPACER	
38	LS40598-001A	BANDAGE SHEET	x4
39	LS40602-001A	SHIELD CUSHION	x3
40	LS40583-001A	SHIELD	
41	LS40583-002A	SHIELD	
42	LS40631-001A	PAD	
43	QAR0376-001	FAN MOTOR	
44	QQR0988-002	FERITE CORE	x3
45	LW40595-001A	SPACER	x3
46	LS40583-004A	SHIELD	
47	LW40695-002A	SHIELD	x2
48	LS40665-001A	SHEET	
49	LS40583-003A	SHIELD	
50	LS40627-001A	SHEET (EJT KNOB)	
51	LS40592-001A	SPACER	
52	–	ZETSUEN TAPE	HZT18-UL10-3M
63	QQR0895-014	FERITE CORE	
S1	QYSPSPU2040MA	SCREW	M2x4.0
S4	QYSDSP2610MA	SCREW	M2.6x10
S7	QYSPSPT2080NA	SCREW	M2x8.0
S8	QYSDSF3008MA	SCREW	M3x10
S9	QYSDSP3012MA	SCREW	M3x12
S10	QYSPSPU2080MA	SCREW	M2x8.0
S11	QYSPSF3008NA	SCREW	M3x8
S12	QYSPSPU2040NA	SCREW	M2x4.0
S13	QYSPSFU2060NA	SCREW	M2x6.0
S14	SS411354-B2006N	SCREW	M2x6
S15	QYSPSPT2640MA	SCREW	M2.6x4.0
S37	QYSDSP4010NA	SCREW	M4x10
S40	QYSSSPT2040MA	SCREW	M2x40
S41	QYSDSP2614MA	SCREW	M2.6x14
S42	QYSPSPT1460MA	SCREW	M1.4x6.0
S44	QYSDSP3008MA	SCREW	M3x8

5.1 CABINET ASSEMBLY M2


S37
S10
21
20
19
42
2
3
S10
42
42
S10
12
50
1
46
45
41
24
UL LABEL (GY-HD100U)
WEE LABEL (GY-HD100E/GY-HD101E)
HANDLE ASSEMBLY M6
23
47
7
6
11
S12
10
9
S12
S11
5
S1
45
S13
13
S12
17
S11
4
17
16
39
39
15
EJECT BOARD ASSEMBLY 53
47
49
40
14
S14
8
S15
51
38
15
S12
VF ASSEMBLY M7
LINSEL BOARD ASSEMBLY 31
S14
RIGHT SIDE COVER ASSEMBLY M4
XLR BOARD ASSEMBLY 56
CHASSIS ASSEMBLY M3
18
S. LABEL
S1
S7
S7
52
ISB BOARD ASSEMBLY 01
ISG BOARD ASSEMBLY 02
28
S44
S1
31
44
S41
43
31A
S1
S1
29
30
48
S44
26
S44
S1
LATING LABEL
31D
S40
44
S1
S44
S15
31B
31C
ISR BOARD ASSEMBLY 03
27
27
27
32
S4
52
S8
S9
S8
FNC BOARD ASSEMBLY 68

5.2 CHASSIS ASSEMBLY M3

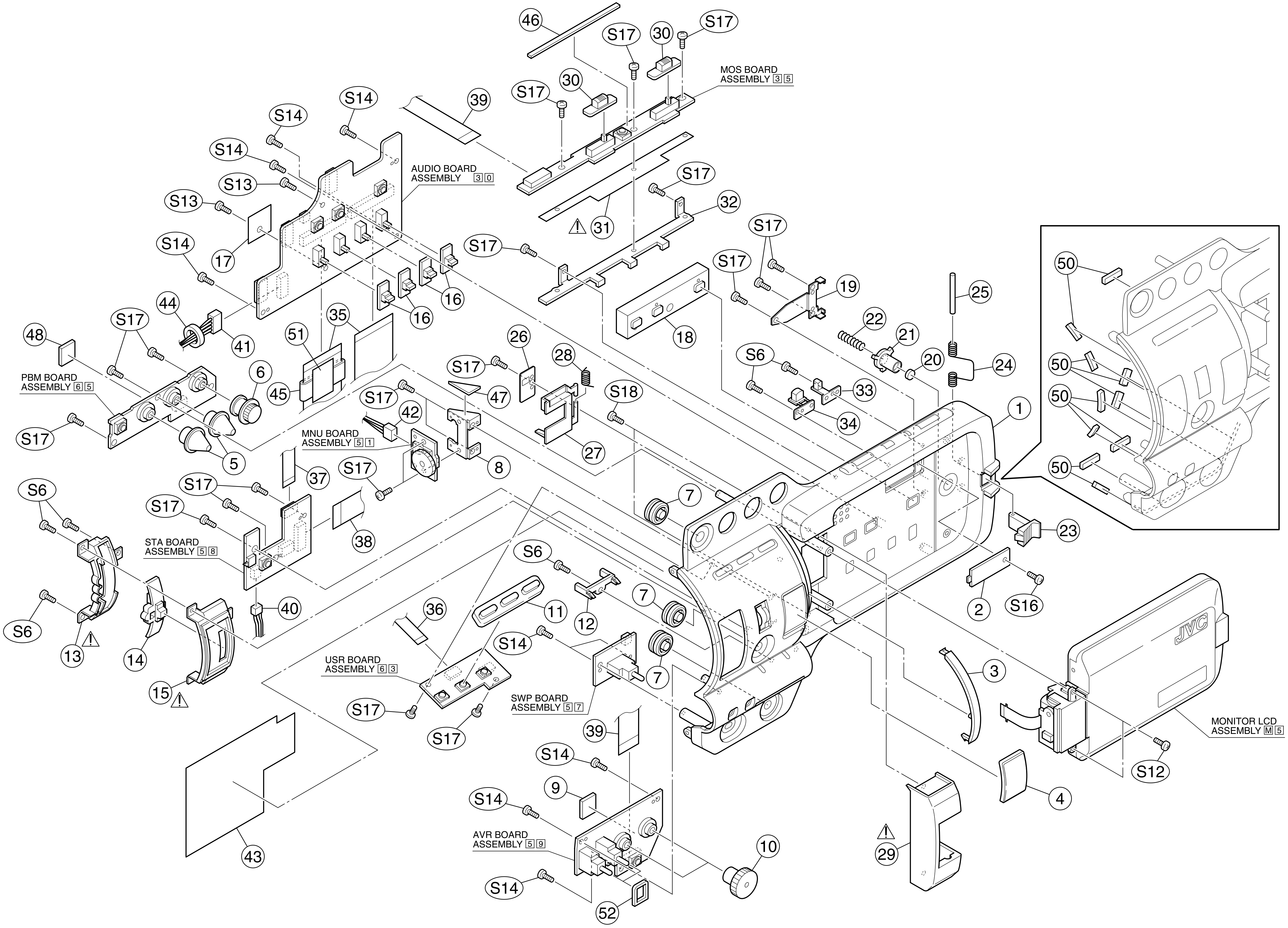

67 ⚠
10
S19
S12
MECHANISM ASSEMBLY M8
23
S12
S12
S12
25
PR MDA BOARD ASSEMBLY 33
S19
W8
S27
d
e
f
c
28
S19
51
S14
19
VJK BOARD ASSEMBLY 42
12
38 ⚠
37 ⚠
S24
39 ⚠
S6
16
15
14
13 ⚠
b
17
S12
DC IN BOARD ASSEMBLY 41
40
S12
46
S24
69
AJK BOARD ASSEMBLY 67
41
S24
42
43
44
S18
S18
32
34
S20
35
S25
31 ⚠
33
30
36
70
29 ⚠
TERM BOARD ASSEMBLY 80
69
PS BOARD ASSEMBLY 21
S23
S23
10
10
S24
68
18
OPE BOARD ASSEMBLY 52
g
52 ⚠
20
49
Accessory nut
Accessory tooth washer
S12
22
21
1
a
2
64
62
24
S14
DV OUT BOARD ASSEMBLY 43
S45
65
48 ⚠
S23
S23
45
55
56
S14
47 ⚠
50
54
S14
S10
S10
57
53
MAIN BOARD ASSEMBLY 10
19
W7
S23
W7
S23
MIF BOARD ASSEMBLY 20
W7
S23
8
S17
7
S12
8
S14
S17
SD BOARD ASSEMBLY 32
AWB BOARD ASSEMBLY 55
ZBR BOARD ASSEMBLY 66
58
S12
61
S12
59
S23
60
26
50
27
S14
9
63
10
4
5
S21
3 ⚠
S20
S21
6
S22
S22

■ CHASSIS ASSEMBLY PARTS LIST M3

M4MM☐☐☐☐

Symbol No.	Part No.	Part Name	Description
1	LW10101-001C	CENTER FRAME	
2	SC44828-002	SWITCH CAP	
⚠ 3	LW20169-001B-H	BOTTOM COVER	
4	LW40814-001A-H	BALANCER SHAFT	x2
5	LW30547-001A-H	BALANCER	
6	LW40863-001B-H	GUIDE RAIL	
7	LW40886-001A-H	AWB BRACKET	
8	WJJ0604-001A-E	CONNECTING WIRE	FCN9 AWB/ABR-MIF
9	SCV2803-1515B	FFC WIRE	LCN13 MIF-LINSEL
10	–	ZETSUEN TAPE	HZT18-UL10-3M
12	LW30548-001C-H	OPERATION COVER	
⚠ 13	LW30549-001B-H	OPERATION BASE	
14	LW40816-001A-H	SHAFT	
15	QYREE1200X	E RING	
16	SC46532H-001	SPRING(1)	
17	LW30550-001A-H	OPERATION KNOB	
18	WJJ0602-001A-E	CONNECTING WIRE	
19	QUQ105-1010AA-E	FFC WIRE	CN34 VJK-MIF
20	QAM0754-001	CAMERA CABLE	CN23 MIF
21	WJJ0600-001A-E	LENS CONNECTOR	CN3 MAIN
22	LW40815-001B-H	LENS BRACKET	
23	QSD0006-001	DEW SENSOR	
24	QUQ105-2004AA-E	FFC WIRE	CN30 PS-MAIN
25	WJJ0603-001A-E	CONNECTING WIRE	CN75 PRMDA-PS
26	QUQ105-1607AA-E	FFC WIRE	CN17 PRMDA-MAIN
27	QUQ105-5007AA-E	FFC WIRE	CN16 PRMDA-MAIN
28	LW40900-001A-H	SHIELD	
⚠ 29	LW10109-001C-H	REAR COVER	
30	WJM0444-001A-E	CONNECTING WIRE	TERM-PS
⚠ 31	LW30553-001A-H	BATTERY ROCK	
32	LW30607-001A-H	EJECT KNOB	
33	LW40878-001A-H	SPRING	
34	LW40888-001B-H	SPR BRACKET	
35	–	CAUTION LABEL	SC45456, GY-HD100U
36	LS40543-002A	FELT SPACER	x2
⚠ 37	LW40877-001B-H	REAR PANEL	
⚠ 38	LW30608-001D-H	CONECTOR COVER	
⚠ 39	LW20181-001B-H	SWITCH COVER	
40	LW40889-001A-H	DC BRACKET	
41	LW40891-001A-H	KNOB	
42	WJJ0610-001A-E	CONNECTING WIRE	CN54 AJK-MF
43	WJJ0609-001B-E	E-SI C WIRE C-C	CN19 AJK-MIF
44	WJJ0169-001B-E	E-SH C WIRE C-C	CN11-AJK-DVOUT
45	WJJ0601-001A-E	CONNECTING WIRE	CN29 PS-MAIN
⚠ 47	LS30471-001A	SHIELD SHEET(R)	
⚠ 48	LS40584-001A	SHIELD SHEET	
49	QQR0976-001	FERRITE CORE	FOR C. CABLE
50	QQR1346-001	FERRITE PLATE	x3
51	LS30481-001A	SHEET (RCA)	
⚠ 52	LS20140-001A-H	INSULATOR 1	
53	LS30466-001A-H	CONDUCT.PLATE	
54	LS40564-001A-H	PIPE.HOLDER.2	
55	LS40586-001A	PAD SHEET	
56	LS40586-002A	PAD SHEET	
57	LS40586-003A	PAD SHEET	
58	LW40887-001A-H	SD BRACKET	
59	LS40601-001A	SHIELD SHEET SD	
60	LS40599-001A	BADAGE SHEET 2	
61	QUQ105-1007AA-E	FFC WIRE	
62	QQR0895-013	FERITE CORE	
64	LS40610-001A	SPACER(DV)	
65	LS30472-001A	REAR COVER T	
⚠ 67	LS40580-001B-H	INSULATOR 2	
68	LS40664-001A	CUSHON (OPE)	x2
69	LS40646-001A	REAR CUSHON	x2
70	LY21007-001E	REAR UNIT	
S6	QYSPSPT2040MA	SCREW	M2x4.0
S10	QYSPSPU2080MA	SCREW	M2x8.0
S12	QYSPSPU2040NA	SCREW	M2x40
S14	SS411354-B2006N	SCREW	
S17	QYSPSPU2030NA	SCREW	M2x30
S18	QYSPSFU2040MA	SCREW	M2x4
S19	YQ43893	SCREW	
S20	QYSPSP2606MA	SCREW	M2.6x6
S21	QYSDSP2605MA	SCREW	M2.6x5
S22	QYSSSP2606NA	SCREW	M2.6x6
S23	QYSPSPH2006NA	SCREW	M2x6
S24	QYSPSFU2060MA	SCREW	M2x6.0
S25	QYSPSFT1730MA	SCREW	M1.7x3.0
S27	LY30031-003A	SCREW	
S45	QYSDSP3004MA	SCREW	M3x4
W7	QYWBS285803NA	WASHER	x4
W8	QYWBS224803NA	WASHER	

5.3 RIGHT SIDE COVER ASSEMBLY M4


46
S17
30
S17
MOS BOARD ASSEMBLY 35
39
S17
30
S14
S14
S14
AUDIO BOARD ASSEMBLY 30
S13
S13
17
S17
32
31
S14
S17
S17
19
16
16
25
50
44
S17
35
51
18
22
21
48
41
26
28
20
24
PBM BOARD ASSEMBLY 65
6
S6
S17
45
47
S18
33
50
S17
42
34
1
50
MNU BOARD ASSEMBLY 51
27
S17
5
8
S17
37
7
50
S6
S17
S17
STA BOARD ASSEMBLY 58
38
23
S6
2
S16
36
11
7
40
12
S6
S14
13
14
7
USR BOARD ASSEMBLY 63
3
15
S17
S17
SWP BOARD ASSEMBLY 57
39
MONITOR LCD ASSEMBLY M5
S12
S14
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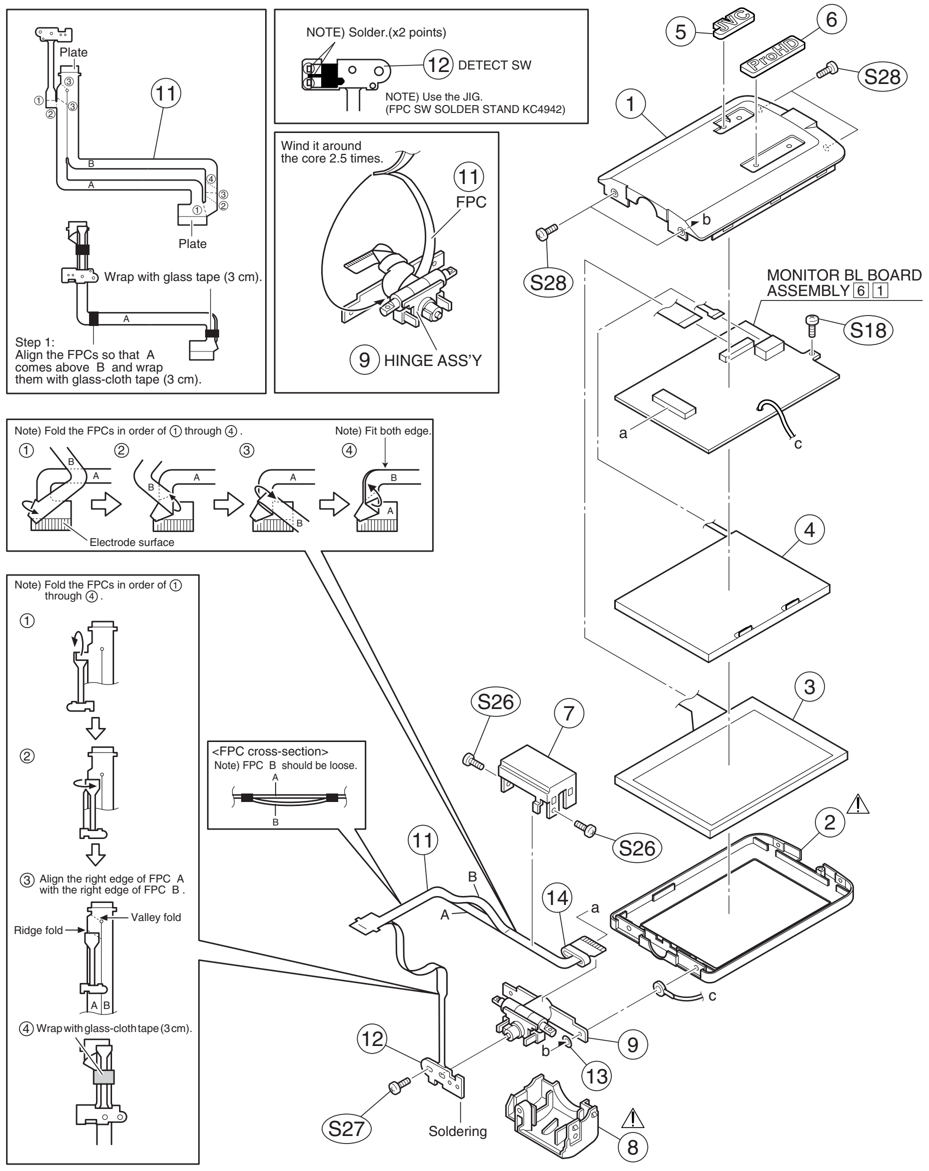
4
S14
10
AVR BOARD ASSEMBLY 59
29
43
S14
52
JVC

■ RIGHT SIDE COVER ASSEMBLY PARTS LIST M 4

M 3 M M ☐☐☐☐

Symbol No.		Part No.	Part Name	Description
	1	LW10103-001B	R. SIDE COVER	
	2	LW40182-003A-H	COVER	
	3	LW30562-001A-H	COLLAR	
	4	LW30563-001A-H	LIGHT COVER	
	5	LW40872-001B-H	VR KNOB	
	6	LW40873-001B-H	VR KNOB	
	7	SC45246H-001	KNOB	x3
	8	LW40827-001A-H	SHUTTER BKT	
	9	LS40543-002A	FELT SPACER	
	10	LW40824-001A-H	VR.KNOB	x2
	11	LW30570-001A-H	PUSH KNOB	
	12	LW30573-001A-H	LED PLATE 2	
⚠	13	LW20171-001A-H	SLIDE BASE	
	14	LW30567-001C-H	ND KNOB	
⚠	15	LW30568-001B-H	ND KNOB COVER	
	16	SC46796H-001	SLIDE KNOB	x4
	17	LS40571-001A	SHIELD SHEET	
	18	LW30571-001A-H	PUSH KNOB	
	19	LW30569-001A-H	LCD BRACKET	
	20	LW40188-002A-H	CUSHION	
	21	LW40184-001A-H	RELEASE KNOB	
	22	LW40903-001A-H	COMPRESS SPRING	
	23	LW40825-001B-H	LCD KNOB	
	24	LW40826-001B-H	TOR.SPRING	
	25	LW40884-001A-H	SHAFT	
	26	LW40828-001A-H	BRACKET	
	27	LW30572-001D-H	LCD BOARD COVER	
	28	LW40829-001B-H	TOR.SPRING	
⚠	29	LW30564-001A-H	HINGE COVER	
	30	LW30566-001A-H	SLIDE KNOB	x2
⚠	31	LW40885-001A-H	SHEET	
	32	LW30603-001A-H	BORD BRACKET	
	33	LW40831-001A-H	LED PLATE 1	
	34	LW30565-001A-H	PUSH KNOB	
	35	SCV2803-5010B	FFC WIRE	x2
	36	QUQ105-10X5AA-E	FFC WIRE	CN55 USR-PBM
	37	QUQ105-1103AA-E	FFC WIRE	CN50 USR-STA
	38	QUQ105-2413AA-E	FFC WIRE	CN10 STA-MIF
	39	QUQ105-18X7AA-E	FFC WIRE	x2
	40	WJJ0608-001A-E	CONNECTING WIRE	CN52 STA-SWP
	41	WJN0170-001A-E	CONNECTING WIRE	CN4 AUD-SWP
	42	WJJ0607-001A-E	CONNECTING WIRE	CN51 MNU-STA
	43	LS40600-001A	SHEET	
	44	QQR1222-001	FERRITE CORE	FOR No.41
	45	QQR0895-011	FERITE CORE	x2
	46	LS40663-001A	PAD (MOS)	
	47	LS40616-001A	ND SPACER	
	48	LS40646-001A	REAR CUSHION	
	49	LS40583-005A	SHIELD	
	50	LS40602-001A	SHIELD CUSHION	x9
	51	–	ZETSUEN TAPE	HZT18-UL10-3M
	52	LW40383-001A-H	CUSHION	x2
	S1	QYSPSPU2040MA	SCREW	M2x4.0
	S6	QYSPSPT2040MA	SCREW	M2x4.0
	S12	QYSPSPU2040NA	SCREW	M2x4.0
	S13	QYSPSPU2030NA	SCREW	M2x3.0
	S14	SS411354-B2006N	SCREW	M2x6
	S16	QYSPSPT1730MA	SCREW	M1.7x3.0
	S17	QYSPSPU2030NA	SCREW	M2x3.0
	S18	QYSPSFU2040MA	SCREW	M2x4.0

5.4 MONITOR LCD ASSEMBLY M 5



NOTE) Solder.(x2 points)

NOTE) Use the JIG. (FPC SW SOLDER STAND KC4942)

Wrap with glass tape (3 cm).

Step 1: Align the FPCs so that A comes above B and wrap them with glass-cloth tape (3 cm).

Wind it around the core 2.5 times.

Note) Fold the FPCs in order of ① through ④.

Note) Fit both edge.

Note) Fold the FPCs in order of ① through ④.

③ Align the right edge of FPC A with the right edge of FPC B.

④ Wrap with glass-cloth tape (3cm).

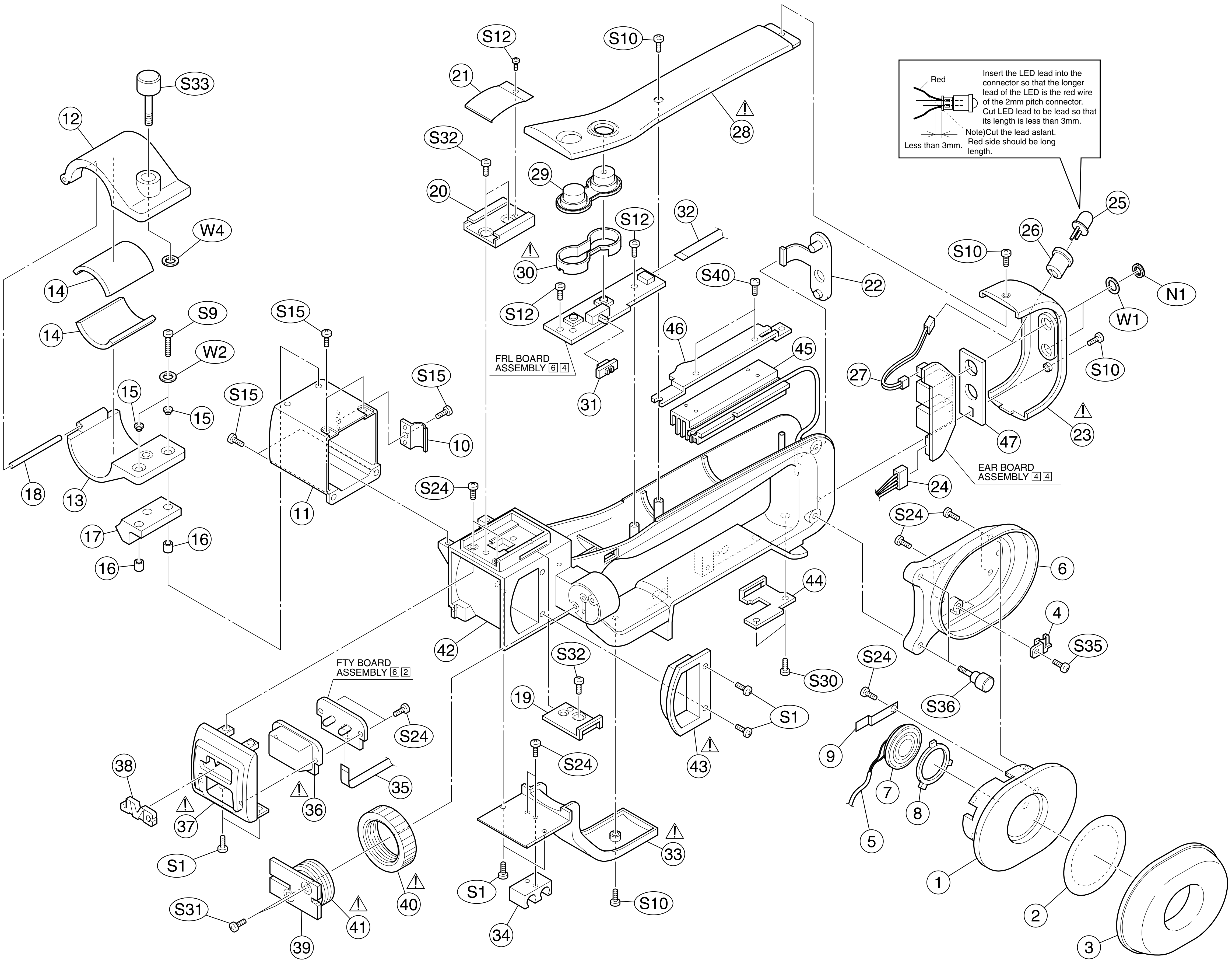
Note) FPC B should be loose.

■ MONITOR LCD ASSEMBLY PARTS LIST M 5

M 5 M M ☐☐☐☐

Symbol No.		Part No.	Part Name	Description
	1	LW10104-001A	MONITOR COVER	
⚠	2	LW10105-001A-H	MONITOR CASE	
	3	QLD0378-001	LCD	
	4	QLL0172-001	BACK LIGHT	
	5	LW40840-001B	MARK(JVC)	
	6	LW40832-001A	PLATE(HD)	
	7	LW20172-001A-H	HINGE COVER 1	
⚠	8	LW20074-001C-H	HINGE COVER 2	
	9	LY32079-001A	HINGE ASSEMBLY	
	11	QAL0222-001	FPC	
	12	NSW0095-001	DETECT SWITCH	
	13	LW40279-003A	RING SHEET	
	14	QQR1685-001	FERITE CORE	
	S18	QYSPSFU2040MA	SCREW	M2x4.0
	S26	LY30031-0A8A	SCREW	
	S27	LY30031-003A	SCREW	
	S28	LY30031-052A	SCREW	

5.5 HANDLE ASSEMBLY M 6



Insert the LED lead into the connector so that the longer lead of the LED is the red wire of the 2mm pitch connector. Cut LED lead to be lead so that its length is less than 3mm.

Note)Cut the lead aslant. Red side should be long length.

FRL BOARD ASSEMBLY 6 4

EAR BOARD ASSEMBLY 4 4

FTY BOARD ASSEMBLY 6 2

Red
Less than 3mm.
S12
S10
21
28
S33
12
S32
29
20
25
W4
S12
32
26
30
S10
22
N1
14
S40
S12
W1
S9
S15
14
46
45
S10
W2
S15
27
15
S15
31
15
10
47
23
18
13
11
S24
24
17
16
S24
16
6
44
4
S35
42
S32
S24
S30
S36
19
S1
S24
38
S24
43
9
35
36
7
37
8
5
S1
40
33
1
S1
2
S31
41
S10
39
34
3

HANDLE ASSEMBLY PARTS LIST M 6

M 6 M M ☐ ☐ ☐ ☐

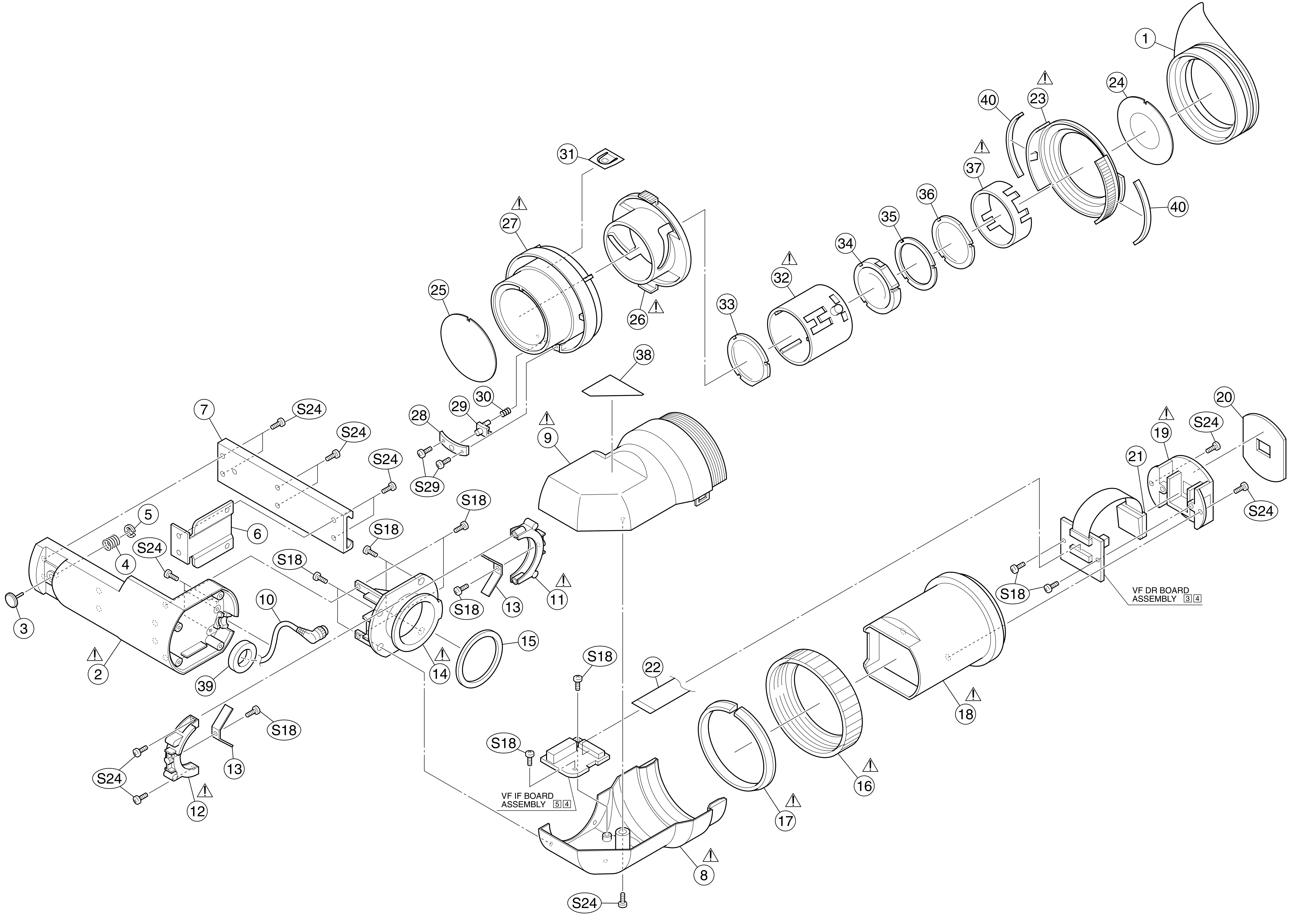
Symbol No.	Part No.	Part Name	Description
1	LW30595-001A-H	PAD HOLDER	
2	LW40901-001A-H	DP SHEET	
3	LW30596-001A-H	PAD	
4	LW40867-001A-H	WIRE GUIDE	
5	QAM0802-001	PLUG CORD	
6	LW20179-001A	CHEEK PAD	
7	QAS0063-003	SPEAKER	
8	LW40410-001A-H	SHEET	
9	LW40216-001B-H	SP BRACKET	
10	SC46668H-001	CABLE HOLDER	
11	LW20177-001A	HANDLE COVER	FOR MIC HOLDER
12	LW30578-001A-H	HOLDER COVER	FOR MIC HOLDER
13	LW30577-001B-H	HOLDER BASE	FOR MIC HOLDER
14	LW40843-001A-H	CUSHION	x2
15	LW40924-001A-H	MH CUSHION	x2
16	LW40890-002A	SPACER	x2
17	LW40842-001A-H	CUSHION	
18	QYPRE2014	SPRING PIN	
19	LW40838-001C-H	BRACKET (F)	
20	LW40833-001A-H	SHOE	
21	LW40834-001B-H	SHOE SPRING	
22	LW30575-001B-H	E.H. COVER	
⚠ 23	LW20175-001A-H	HANDLE COVER(R)	
24	WJN0168-001B-E	WIRE	CN12 EAR-MIC
25	SLR-56VR3F	L.E.D.	
26	SM3512	L.E.D. MOUNTOR	
27	WJJ0605-001A-E	CONNECTING WIRE	CN47 EAR-LED
⚠ 28	LW20173-001C-H	HANDLE COVER(T)	
29	LW40837-001B-H	HANDLE BUTTON	
⚠ 30	LW40836-001B-H	BUTTON GUIDE	
31	LW40835-001A-H	SLIDE KNOB	
32	QUQ105-1022AA-E	FFC WIRE	CN48FRL-CN8MIF
⚠ 33	LW20176-001A-H	HANDLE COVER(B)	
34	SC42550H-011	C.HOLDER	
35	QUQ105-1022AA-E	FFC WIRE	CN8 FTY-FRL
⚠ 36	LW30574-001A-H	TALLY CAP (F)	
⚠ 37	LW20174-001A-H	HANDLE COVER(F)	
38	LW40840-001B	MARK(JVC)	
39	LW30590-001A-H	SLIDE BASE	
⚠ 40	LW40852-001A-H	SLIDE LOCK RING	
⚠ 41	LW40893-001A-H	SLIDE SCREW	
42	LW10106-001C	HANDLE	
⚠ 43	LW30576-001A-H	V.F. GUIDE	
44	LW40839-001C-H	BRACKET (R)	
45	LS30467-001B-H	HEAT SINK ASSEMBLY	
46	LS30465-001B-H	SINK HOLDER.1	
47	LS40566-001A	CU SHEET	
S1	QYSPSPU2040MA	SCREW	M2x4.0 x6
S9	QYSDSP3012MA	SCREW	M3x12 x2
S10	QYSPSPU2080MA	SCREW	M2x8.0 x4
S12	QYSPSPU2040NA	SCREW	M2x40 x3
S15	QYSPSPT2640MA	SCREW	M2.6x4.0 x5
S24	QYSPSFU2060MA	SCREW	M2x6.0 x11
S30	QYSDSP3004NA	SCREW	M3x4.0 x2
S31	QYSSSP3018MA	SCREW	M3x18 x2
S32	QYSSSP3005MA	SCREW	M3x5 x3
S33	LW40841-001B-H	SCREW	FOR MIC HOLDER
S35	QYSPSPT2040NA	SCREW	M2x4.0
S36	LW40866-001A-H	SCREW	x2
S40	QYSSSPT2040MA	SCREW	M2x4.0 x2
W1	LW40896-001A	E.H. WASHER	x2
W2	QYWSS327005NA	WASHER	x2
W4	LW40683-001A-H	C WASHER	
N1	LW40895-001A	E.H. NUT	x2

■ VF ASSEMBLY PARTS LIST M 7

M 7 M M ☐ ☐ ☐ ☐

Symbol No.	Part No.	Part Name	Description
1	LW30579-001C-H	EYE CAP	
⚠ 2	LW20178-001B-H	SHOE COVER	
3	LW40853-001A-H	LOCK PIN	
4	LW40858-001A-H	COIL SPRING	
5	QYREE1500X	E RING	
6	LW40860-001A-H	NUT PLATE	
7	LW30589-001A-H	SLIDE SHOE	
⚠ 8	LW30588-001B-H	VF COVER B	
⚠ 9	LW30587-001B-H	VF COVER T	
10	QAM0753-001	CAMERA CABLE	CN65 VF IF
⚠ 11	LW30592-001B-H	CLUTCH A	
⚠ 12	LW30593-001A-H	CLUTCH B	
13	LW40862-001A-H	CLITCH SPRING	x2
⚠ 14	LW30591-001A-H	CLUTCH BASE	
15	LW40861-001B-H	CLUTCH RING	
⚠ 16	LW40850-001A-H	LOCK RING	
⚠ 17	LW40851-001A-H	SPACER	
⚠ 18	LW30585-001C-H	SLIDE COVER	
⚠ 19	LW30586-001B-H	LCD HOLDER	
20	LW40894-001A-H	LCD PLATE	
21	QLD0368-001	LCD	
22	QUQ105-2017AA-E	FFC WIRE	
⚠ 23	LW30580-001B-H	FRONT COVER	
24	LW40854-001B-H	COVER SHEET	
25	LW40849-001B	FILTER(PL)	
⚠ 26	LW30584-001A-H	CAM RING	
⚠ 27	LW30583-001C-H	VF HOLDER	
28	LW40855-001A-H	PLATE	
29	LW40856-001A-H	KNOB	
30	LW40859-001B-H	COIL SPRING	
31	LW40857-001A-H	SPRING PLATE	
⚠ 32	LW30581-001C-H	LENS HOLDER	
33	LW40848-001B	VF LENS 3	
34	LW40847-001B	VF LENS 2	
35	LW40931-001A-H	LENS SPACER	
36	LW40846-001B	VF LENS 1	
⚠ 37	LW30582-001B-H	LENS HOLDERCAP	
38	SC46425-001	LABEL	
39	QQR1222-001	FERRITE CORE	FOR No.10
40	LS40665-002A	SHEET (SP)	x2
S18	QYSPSFU2040MA	SCREW	M2x4.0
S24	QYSPSFU2060MA	SCREW	M2x6.0
S29	QYSPSFT2040MA	SCREW	M2x4.0

5.6 VF ASSEMBLY M 7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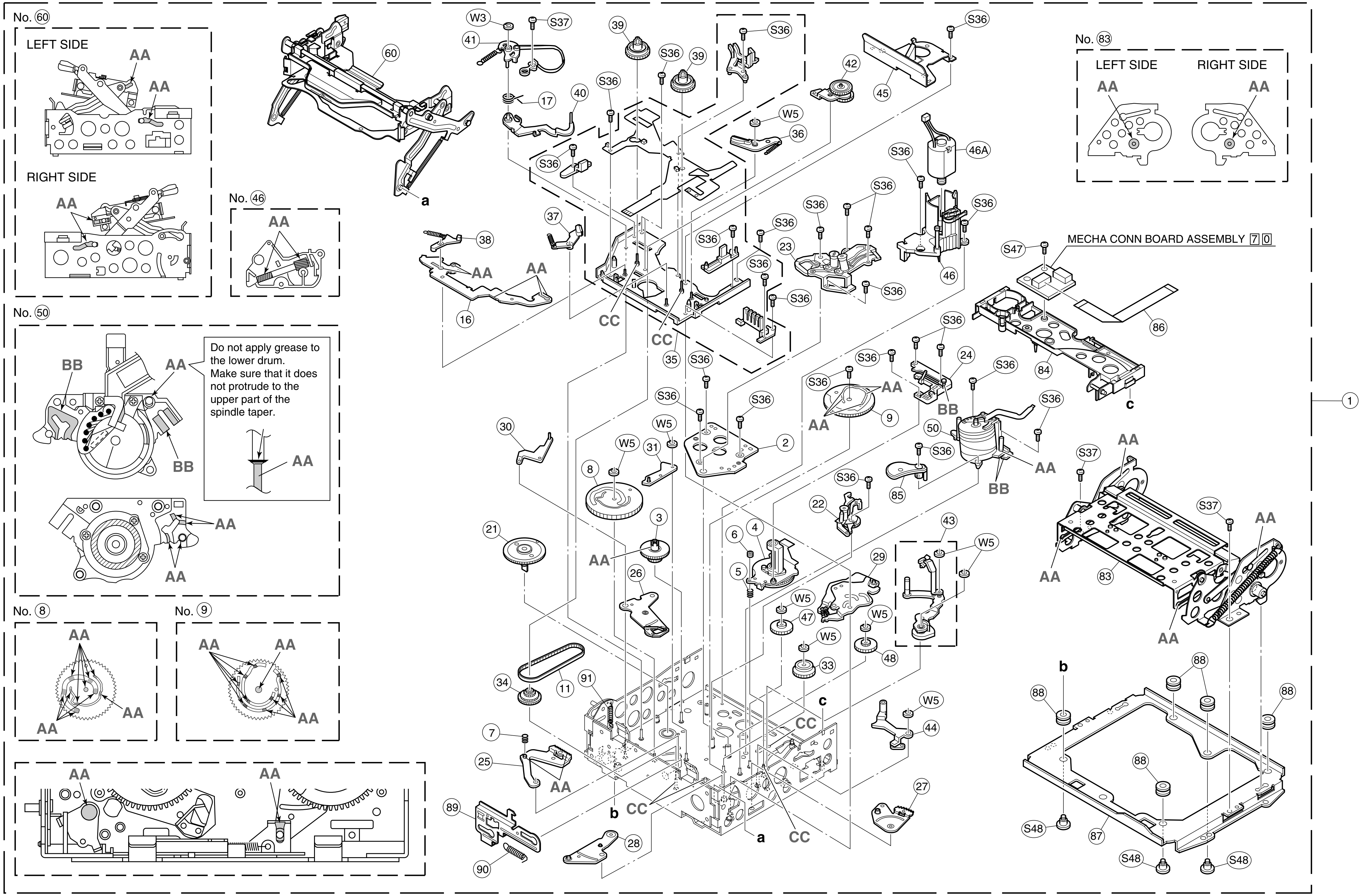
S18
S24
S29
VF DR BOARD
ASSEMBLY 3 4
VF IF BOARD
ASSEMBLY 5 4
⚠

5.7 MECHANISM ASSEMBLY M 8


No. 60
LEFT SIDE
RIGHT SIDE
No. 46
No. 50
Do not apply grease to the lower drum. Make sure that it does not protrude to the upper part of the spindle taper.
No. 8
No. 9
No. 83
LEFT SIDE
RIGHT SIDE
MECHA CONN BOARD ASSEMBLY 70
AA
BB
CC
a
b
c
1
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5
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46A
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S36
S37
S47
S48
W3
W5

Classifi-cation	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Grease	RX-410R	BB
Oil	YTU94027	CC

NOTES:
- This section indicates that the grease and oil are to be applied on locations marked with AA, BB and CC.
  During checking and servicing, check if grease has been applied on the locations marked with AA, BB and oil on the locations marked with CC.
- Apply also grease and oil on some locations in the main cam gear and the cam groove at the rear side of the sub cam gear.

■ MECHANISM ASSEMBLY PARTS LIST M 8

Symbol No.	Part No.	Part Name	Description
1	LL30438-001A	MECHA UNIT	
2	LL20124-001A	DRUM BASE DECK	
3	LL40465-001A	WHEEL GEAR2	
4	QAR0012-002	CAPSTAN MOTOR	
5	LY30002-003A	COMPRESS SPRING	
6	LY41390-001B	ADJUST NUT	
7	LY40224-001A	COLLAR	
8	LL10093-001A	MAIN CAM	
9	LL20126-001A	SUB CAM	
11	PRD45310	TIMING BELT	
16	LL20127-001A	CONTROL PLATE	
17	LY41243-001A	TORSION SPRING	
21	LL30400-001A	ENCODER GEAR	
22	PRD31521B-04	GUIDE RAIL(S) ASSEMBLY	
23	LY20097-004A	G.RAIL(T) ASSEMBLY	
24	LY30345-001A	M.CATCHER ASSEMBLY	
25	LY40223-001A	ARM GEAR 1 ASSEMBLY	
26	LL40464-001A	CENTERING ARM ASSEMBLY	
27	LL40466-001A	ARM GEAR 2 ASSEMBLY	
28	LL40468-001A	C.P.D.ARM ASSEMBLY	
29	LY30347-001A	CHARGE ARM ASSEMBLY	
30	LY40236-001A	T.CTL ARM ASSEMBLY	
31	LL40473-001A	B.CTL.ARM ASSEMBLY	
33	PRD31445A	PULLEY GEAR ASSEMBLY	
34	LY40239-003A	CENT. GEAR ASSEMBLY	
35	PRD31443C	SUB DECK ASSEMBLY	
36	LL40479-001B	SUB BRAKE ASSEMBLY	
37	LL40482-001A	M.BRAKE(T) ASSEMBLY	
38	LL40484-001A	M.BRAKE(S) ASSEMBLY	
39	LY40255-003A	REEL DISK ASSEMBLY	x2
40	LY41245-001B	TENSION ARM SUB ASSEMBLY	
41	LY41246-003B	B.ARM PLATE SUB ASSEMBLY	
42	LY30370-002D	SWING ARM ASSEMBLY	
43	LY30380-003A	EXIT G.ARM ASSEMBLY	
44	LY30374-001B	P.R.ARM ASSEMBLY	
45	LL40486-001A	REEL COVER ASSEMBLY	
46	LL30409-001A	GEAR COVER ASSEMBLY	
46A	LL40489-001A	MOTOR ASSEMBLY	INC. No.46
47	PRD45311	R.DRIVE GEAR 1	
48	PRD45312	R.DRIVE GEAR 2	
50	YDV2100B	DRUM FINAL ASSEMBLY	
60	LL20129-001A	C.HOUSING ASSEMBLY	
83	LL20134-001A	OUTER UNIT ASSEMBLY	
84	LL20128-001A	TAPE GUARD	
85	LL30410-001A	TU TAPE GUARD	
86	QUQ105-13X7AA-E	FFC WIRE	
87	LL20125-001A	MECHA BRACKET	
88	LY42796-001A	BUSH	x5
89	LL30398-001A	MAIN LOCK PLATE	
90	LL40463-001A	TENSION SPRING	FOR No.89
91	LL40516-001A	TENSION SPRING	
S36	YQ43893	SCREW	M1.4x2
S37	LL40426-001A	SCREW	M1.4x2
S43	QYSDSP2003ZA	SCREW	M2x3
S46	QYSPSPU1430MA	SCREW	M1.4x30
S47	QYSDSG2004NA	SCREW	M2x4
S48	LY30032-002A	SCREW	
W3	PRD45316	SLIT WASHER	
W5	YQ44246	SLIT WASHER	

SECTION 6
ELECTRICAL PARTS LIST

SAFETY PRECAUTION:
Parts identified by the ⚠ symbol are critical for safety. Replace only with specified parts numbers.
For maximum reliability and performance, all other replacement parts should be identical to those specified.

NOTE:
- Parts not denoted by parts numbers are not supplied by JVC.
- Abbreviations in this list are as follows:

RESISTORS
In the "Description" column:
All resistance values are in ohms (Ω).
k expresses kilo-ohm (1 000 ohms, kΩ).
M expresses mega-ohm (10^6 ohms, MΩ).

In the "Parts Name" column:

CAR.RESISTOR	Carbon Resistor
C.M.F.RESISTOR	Constant Metalized Film Resistor
COMP.RESISTOR	Composition Resistor
FUSI.RESISTOR	Fusible Resistor
M.F.RESISTOR	Metal Film Resistor
M.G.RESISTOR	Metal Graze Resistor
M.P.RESISTOR	Metal Plate Resistor
O.M.F.RESISTOR	Oxide Metalized Film Resistor
TRIM.RESISTOR	Trimerer Resistor
U.F.RESISTOR	Non-inflammable Resistor
VAL.RESISTOR	Valiable Resistor
W.W.RESISTOR	Wire Wound Resistor

CAPACITORS
In the "Description" column:
All capacitance values are in microfarad (μF) unless otherwise indicated.
p expresses picofarad (10^{-12} farad,pF).

In the "Parts Name" column:

CER.CAPACITOR	Ceramic Capacitor
E.CAPACITOR	Electrolytic Capacitor
FILM CAPACITOR	Film Capacitor
M.F.CAPACITOR	Metalized Film Capacitor
MICA CAPACITOR	Mica Capacitor
MPP CAPACITOR	Metalized PolyPropylene Capacitor
MPPS CAPACITOR	Metalized PolyPhenylene Sulfied film Capacitor
M.M.CAPACITOR	Metalized Mylar Capacitor
MYLAR CAPACITOR	Mylar Capacitor
N.P.CAPACITOR	Non-Poler electrolytic Capacitor
P.P.CAPACITOR	PolyPropylene Capacitor
PPS CAPACITOR	PolyPhenylene Sulfied film Capacitor
P.S.CAPACITOR	PolyStyrene Capacitor
TAN.CAPACITOR	Tantal Capacitor
TRIM.CAPACITOR	Trimer Capacitor
VAL.CAPACITOR	Valiable Capacitor

Note: In the "Description" column of the parts list, (U) means the parts for the GY-HD100U while (E) is for the GY-HD100E.

Symbol No.	Part No.	Part Name	Description		
IC1	SCV1585-064	I.C.(M)	JVC	(U)	← **for GY-HD100U**
	SCV1585-067	I.C.(M)	JVC	(E)	← **for GY-HD100E**

6.1 ISB BOARD ASSEMBLY PARTS LIST 0 1

CK279300A1 0 1 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
IC2	AD9949AKCPZ-W	I.C.(M)	ANALOG DEVICES
IC3	AD9949AKCPZ-W	I.C.(M)	ANALOG DEVICES
IC4	MM3142JN-X	I.C.(M)	MITSUMI
IC5	SN74LVC3G34U-X	I.C.(M)	TEXAS
IC6	SN74LVC3G34U-X	I.C.(M)	TEXAS
IC7	TC7SZ08FU-X	I.C.(M)	TOSHIBA
IC8	TC7SZ08FU-X	I.C.(M)	TOSHIBA
IC10	MM1573DN-X	I.C.(M)	MITSUMI
Q1	2SC5095/O/-X	TRANSISTOR	TOSHIBA
Q2	2SC4250-X	TRANSISTOR	TOSHIBA
Q3	2SC5095/O/-X	TRANSISTOR	TOSHIBA
Q4	2SC4250-X	TRANSISTOR	TOSHIBA
R2	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R3	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R4	NRSA6AD-332W	M.G.RESISTOR	3.3k 1/16W
R5	NRSA6AD-472W	M.G.RESISTOR	4.7k 1/16W
R7	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R8	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R9	NRSA6AD-332W	M.G.RESISTOR	3.3k 1/16W
R10	NRSA6AD-472W	M.G.RESISTOR	4.7k 1/16W
R11	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R12	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R21	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R23	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R24	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R25	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R26	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R27	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R29	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R30	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R31	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R32	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R33	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R34	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R35	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R36	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R37	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R38	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R39	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R40	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R41	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R42	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R43	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R44	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R45	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R51	NQR0559-009X	C.FERRITE BEADS	5W
R52	NQR0559-009X	C.FERRITE BEADS	5W
R55	NQR0559-009X	C.FERRITE BEADS	5W
R56	NQR0559-009X	C.FERRITE BEADS	5W
R57	NQR0559-009X	C.FERRITE BEADS	5W
R58	NQR0559-009X	C.FERRITE BEADS	5W
R59	NQR0559-009X	C.FERRITE BEADS	5W
R65	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
C1	NCJ11EK-106X-R	CER.CAPACITOR	10 25V
C2	NCJ11EK-106X-R	CER.CAPACITOR	10 25V
C3	NBS41AM-476X	TAN.CAPACITOR	47 10V
C4	NCB11AK-106X	CER.CAPACITOR	10 10V
C5	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C6	NCB31EK-104X	CER.CAPACITOR	0.1 25V
C7	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C8	NCB31HK-222X	CER.CAPACITOR	2200p 50V
C10	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C12	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C13	NBS40JM-686X	TAN.CAPACITOR	68 6.3V
C14	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C15	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C16	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C17	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C18	NCBA1AK-104W	CER.CAPACITOR	0.1 10V

Symbol No.	Part No.	Part Name	Description
C19	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C20	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C21	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C22	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C23	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C24	NBS40JM-686X	TAN.CAPACITOR	68 6.3V
C25	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C26	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C27	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C28	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C29	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C30	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C31	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C32	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C33	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C34	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C37	NCB11AK-106X	CER.CAPACITOR	10 10V
C38	NCB11AK-106X	CER.CAPACITOR	10 10V
C39	NCB11AK-106X	CER.CAPACITOR	10 10V
C40	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C41	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C42	NBS40JM-686X	TAN.CAPACITOR	68 6.3V
C43	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C44	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C46	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C47	NCB11AK-106X	CER.CAPACITOR	10 10V
C48	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C50	NCB11AK-106X	CER.CAPACITOR	10 10V
C51	NCB11AK-106X	CER.CAPACITOR	10 10V
C52	NBZ0032-476X	TAN.CAPACITOR	47
LC1	NQR0598-001X	LC FILTER	
LC2	NQR0598-001X	LC FILTER	
LC3	NQR0598-001X	LC FILTER	
LC4	NQR0598-001X	LC FILTER	
LC5	NQR0598-001X	LC FILTER	
LC6	NQR0598-001X	LC FILTER	
J1	QUBD70-X1A1A1-E	SIN TWIST WIRE	
CN26	QGB0801L1-54X	CONNECTOR	54PIN

6.2 ISG BOARD ASSEMBLY PARTS LIST 0 2

CK279300A2 0 2 □□□□□□

Symbol No.	Part No.	Part Name	Description
IC2	AD9949AKCPZ-W	I.C.(M)	ANALOG DEVICES
IC3	AD9949AKCPZ-W	I.C.(M)	ANALOG DEVICES
IC4	MM3142JN-X	I.C.(M)	MITSUMI
IC5	SN74LVC3G34U-X	I.C.(M)	TEXAS
IC6	SN74LVC3G34U-X	I.C.(M)	TEXAS
IC7	TC7SZ08FU-X	I.C.(M)	TOSHIBA
IC8	TC7SZ08FU-X	I.C.(M)	TOSHIBA
IC10	MM1573DN-X	I.C.(M)	MITSUMI
Q1	2SC5095/O/-X	TRANSISTOR	TOSHIBA
Q2	2SC4250-X	TRANSISTOR	TOSHIBA
Q3	2SC5095/O/-X	TRANSISTOR	TOSHIBA
Q4	2SC4250-X	TRANSISTOR	TOSHIBA
R2	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R3	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R4	NRSA6AD-332W	M.G.RESISTOR	3.3k 1/16W
R5	NRSA6AD-472W	M.G.RESISTOR	4.7k 1/16W
R7	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R8	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R9	NRSA6AD-332W	M.G.RESISTOR	3.3k 1/16W
R10	NRSA6AD-472W	M.G.RESISTOR	4.7k 1/16W
R11	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R12	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R21	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R23	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R24	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R25	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R26	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R27	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R29	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R30	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R31	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R32	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R33	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R34	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R35	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R36	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R37	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R38	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R39	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R40	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R41	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R42	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R43	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R44	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R45	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R51	NQR0559-009X	C.FERRITE BEADS	5W
R52	NQR0559-009X	C.FERRITE BEADS	5W
R55	NQR0559-009X	C.FERRITE BEADS	5W
R56	NQR0559-009X	C.FERRITE BEADS	5W
R57	NQR0559-009X	C.FERRITE BEADS	5W
R58	NQR0559-009X	C.FERRITE BEADS	5W
R59	NQR0559-009X	C.FERRITE BEADS	5W
R65	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
C1	NCJ11EK-106X-R	CER.CAPACITOR	10 25V
C2	NCJ11EK-106X-R	CER.CAPACITOR	10 25V
C3	NBS41AM-476X	TAN.CAPACITOR	47 10V
C4	NCB11AK-106X	CER.CAPACITOR	10 10V
C5	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C6	NCB31EK-104X	CER.CAPACITOR	0.1 25V
C7	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C8	NCB31HK-222X	CER.CAPACITOR	2200p 50V
C10	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C12	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C13	NBS40JM-686X	TAN.CAPACITOR	68 6.3V
C14	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C15	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C16	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C17	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C18	NCBA1AK-104W	CER.CAPACITOR	0.1 10V

Symbol No.	Part No.	Part Name	Description
C19	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C20	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C21	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C22	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C23	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C24	NBS40JM-686X	TAN.CAPACITOR	68 6.3V
C25	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C26	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C27	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C28	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C29	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C30	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C31	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C32	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C33	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C34	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C37	NCB11AK-106X	CER.CAPACITOR	10 10V
C38	NCB11AK-106X	CER.CAPACITOR	10 10V
C39	NCB11AK-106X	CER.CAPACITOR	10 10V
C40	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C41	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C42	NBS40JM-686X	TAN.CAPACITOR	68 6.3V
C43	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C44	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C46	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C47	NCB11AK-106X	CER.CAPACITOR	10 10V
C48	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C50	NCB11AK-106X	CER.CAPACITOR	10 10V
C51	NCB11AK-106X	CER.CAPACITOR	10 10V
C52	NBZ0032-476X	TAN.CAPACITOR	47
LC1	NQR0598-001X	LC FILTER	
LC2	NQR0598-001X	LC FILTER	
LC3	NQR0598-001X	LC FILTER	
LC4	NQR0598-001X	LC FILTER	
LC5	NQR0598-001X	LC FILTER	
LC6	NQR0598-001X	LC FILTER	
J1	QUBD70-X1A1A1-E	SIN TWIST WIRE	
CN27	QGB0801L1-54X	CONNECTOR	54PIN

6.3 ISR BOARD ASSEMBLY PARTS LIST 0 3

CK279300A3 0 3 ☐ ☐ ☐ ☐ ☐ ☐

Symbol No.	Part No.	Part Name	Description
IC2	AD9949AKCPZ-W	I.C.(M)	ANALOG DEVICES
IC3	AD9949AKCPZ-W	I.C.(M)	ANALOG DEVICES
IC4	MM3142JN-X	I.C.(M)	MITSUMI
IC5	SN74LVC3G34U-X	I.C.(M)	TEXAS
IC6	SN74LVC3G34U-X	I.C.(M)	TEXAS
IC7	TC7SZ08FU-X	I.C.(M)	TOSHIBA
IC8	TC7SZ08FU-X	I.C.(M)	TOSHIBA
IC10	MM1573DN-X	I.C.(M)	MITSUMI
Q1	2SC5095/O/-X	TRANSISTOR	TOSHIBA
Q2	2SC4250-X	TRANSISTOR	TOSHIBA
Q3	2SC5095/O/-X	TRANSISTOR	TOSHIBA
Q4	2SC4250-X	TRANSISTOR	TOSHIBA
R2	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R3	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R4	NRSA6AD-332W	M.G.RESISTOR	3.3k 1/16W
R5	NRSA6AD-472W	M.G.RESISTOR	4.7k 1/16W
R7	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R8	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R9	NRSA6AD-332W	M.G.RESISTOR	3.3k 1/16W
R10	NRSA6AD-472W	M.G.RESISTOR	4.7k 1/16W
R11	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R12	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R21	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R23	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R24	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R25	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R26	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R27	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R29	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R30	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R31	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R32	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R33	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R34	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R35	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R36	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R37	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R38	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R39	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R40	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R41	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R42	NRSA6AD-102W	M.G.RESISTOR	1k 1/16W
R43	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R44	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R45	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R51	NQR0559-009X	C.FERRITE BEADS	5W
R52	NQR0559-009X	C.FERRITE BEADS	5W
R55	NQR0559-009X	C.FERRITE BEADS	5W
R56	NQR0559-009X	C.FERRITE BEADS	5W
R57	NQR0559-009X	C.FERRITE BEADS	5W
R58	NQR0559-009X	C.FERRITE BEADS	5W
R59	NQR0559-009X	C.FERRITE BEADS	5W
R65	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
C1	NCJ11EK-106X-R	CER.CAPACITOR	10 25V
C2	NCJ11EK-106X-R	CER.CAPACITOR	10 25V
C3	NBS41AM-476X	TAN.CAPACITOR	47 10V
C4	NCB11AK-106X	CER.CAPACITOR	10 10V
C5	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C6	NCB31EK-104X	CER.CAPACITOR	0.1 25V
C7	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C8	NCB31HK-222X	CER.CAPACITOR	2200p 50V
C10	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C12	NCB31EK-473X	CER.CAPACITOR	0.047 25V
C13	NBS40JM-686X	TAN.CAPACITOR	68 6.3V
C14	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C15	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C16	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C17	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C18	NCBA1AK-104W	CER.CAPACITOR	0.1 10V

Symbol No.	Part No.	Part Name	Description
C19	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C20	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C21	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C22	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C23	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C24	NBS40JM-686X	TAN.CAPACITOR	68 6.3V
C25	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C26	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C27	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C28	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C29	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C30	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C31	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C32	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C33	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C34	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C37	NCB11AK-106X	CER.CAPACITOR	10 10V
C38	NCB11AK-106X	CER.CAPACITOR	10 10V
C39	NCB11AK-106X	CER.CAPACITOR	10 10V
C40	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C41	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C42	NBS40JM-686X	TAN.CAPACITOR	68 6.3V
C43	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C44	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C46	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C47	NCB11AK-106X	CER.CAPACITOR	10 10V
C48	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C50	NCB11AK-106X	CER.CAPACITOR	10 10V
C51	NCB11AK-106X	CER.CAPACITOR	10 10V
C52	NBZ0032-476X	TAN.CAPACITOR	47
LC1	NQR0598-001X	LC FILTER	
LC2	NQR0598-001X	LC FILTER	
LC3	NQR0598-001X	LC FILTER	
LC4	NQR0598-001X	LC FILTER	
LC5	NQR0598-001X	LC FILTER	
LC6	NQR0598-001X	LC FILTER	
J1	QUBD70-X1A1A1-E	SIN TWIST WIRE	
CN28	QGB0801L1-54X	CONNECTOR	54PIN

6.4 MAIN BOARD ASSEMBLY PARTS LIST 1 0

CK280000A1 1 0 ☐ ☐ ☐ ☐ ☐ ☐

1 0 [MAIN]

Symbol No.	Part No.	Part Name	Description
IC1	JCY0210	I.C.(M)	JVC
IC2	SC192IML-X	I.C.(M)	SEMTECH
IC3	BU3095-0CFV-X	I.C.(M)	ROHM
IC4	BU3095-0CFV-X	I.C.(M)	ROHM
IC5	JCP8076-2	I.C.(M)	JVC
IC6	LMH6654MF-N-X	I.C.(M)	NATIONAL SEMICO
IC7	LMH6654MF-N-X	I.C.(M)	NATIONAL SEMICO
IC8	LMH6654MF-N-X	I.C.(M)	NATIONAL SEMICO
IC14	TA75S01F-X	I.C.(M)	TOSHIBA
IC15	LM4040CIM3-2.5X	I.C.(M)	NATIONAL SEMICO
IC22	SN74AHC2G53T-X	I.C.(M)	TEXAS
IC23	SN74AHC2G53T-X	I.C.(M)	TEXAS
IC24	SN74AHC2G53T-X	I.C.(M)	TEXAS
IC25	SC192IML-X	I.C.(M)	TEXAS
IC27	TC74VHC161FT-X	I.C.(M)	TOSHIBA
IC28	TC7SH04FU-X	I.C.(M)	TOSHIBA
IC29	MK3720DLF-X	I.C.(M)	INTEGRATED CIRC
IC30	TC7SH04FU-X	I.C.(M)	TOSHIBA
IC31	TC7SH04FU-X	I.C.(M)	TOSHIBA
IC32	TC7SZ08FU-X	I.C.(M)	TOSHIBA
IC34	TC7SZ08FU-X	I.C.(M)	TOSHIBA
IC35	TC7WZ74FU-X	I.C.(M)	TOSHIBA
IC36	TC7SZ08FU-X	I.C.(M)	TOSHIBA
IC38	TC7SH04FU-X	I.C.(M)	TOSHIBA
IC39	TC7SH04FU-X	I.C.(M)	TOSHIBA
IC40	TC7SH04FU-X	I.C.(M)	TOSHIBA
IC41	ICS570BLF-X	I.C.(M)	ICS
IC42	TC7SZ08FU-X	I.C.(M)	TOSHIBA
IC43	ICS660GILF-X	I.C.(M)	ICS
IC45	TC7SH04FU-X	I.C.(M)	TOSHIBA
IC46	XC3S20004FG676C	I.C.(M)	PLSC1595
IC47	K4S643233H-HN75	I.C.(M)	SAMSUNG
IC48	UPD6467GR533A-X	I.C.(M)	NEC
IC49	UPD6467GR533A-X	I.C.(M)	NEC
IC50	XC3S10004FG320C	I.C.(M)	PLSC1596
IC51	ADV7123KSTZ50	I.C.(M)	ANALOG DEVICES
IC52	ADV7123KSTZ50	I.C.(M)	ANALOG DEVICES
IC53	K4S643233H-HN75	I.C.(M)	SAMSUNG
IC54	PLSC1591	I.C.(M)	HD64F2368VTE34V
IC55	NJM2904V-X	I.C.(M)	JRC
IC56	TC7W34FU-X	I.C.(M)	TOSHIBA
IC57	M95320-WMN6P-X	I.C.(M)	MITSUBISHI
IC70	M95320-WMN6P-X	I.C.(M)	MITSUBISHI
IC71	PLSC1594	I.C.(M)	MN103SF66R
IC72	TC7W14FU-X	I.C.(M)	TOSHIBA
IC73	MM1572KN-X	I.C.(M)	MITSUMI
IC74	MM1571JN-X	I.C.(M)	MITSUMI
IC75	M62366GP-D-X	I.C.(M)	MITSUBISHI
IC76	JCY0136-X	I.C.(M)	JVC
IC77	TLC2933IPW-X	I.C.(M)	TEXAS
IC78	TC7W53FU-X	I.C.(M)	TOSHIBA
IC79	JCY0152-2	I.C.(M)	JVC
IC81	TC7SZ02FU-X	I.C.(M)	TOSHIBA
IC82	TC7WH241FU-X	I.C.(M)	TOSHIBA
IC84	K4S641633H-BN75	I.C.(M)	SAMSUNG
IC86	JCY0173	I.C.(M)	JVC
IC88	MN5774	I.C.(M)	MATSUSHITA
IC89	TSB41AB2PAP	I.C.(M)	TEXAS
IC90	SN74AHC1G08K-X	I.C.(M)	TEXAS
IC91	PLSL1187	I.C.(M)	NLC0459APB
IC92	BU2288FV-X	I.C.(M)	ROHM
IC93	DS1232AASE60TTE	I.C.(M)	NATIONAL SEMICO
IC94	SA16D70BFI02A02	I.C.(M)	FUJITSU
IC95	DS1232AASE60TTE	I.C.(M)	NATIONAL SEMICO
IC102	CXD3400N-X	I.C.(M)	SONY
IC103	CXD3400N-X	I.C.(M)	SONY
IC104	CXD3400N-X	I.C.(M)	SONY
IC105	SC192IML-X	I.C.(M)	SEMTECH
IC106	XC3S10004FG320C	I.C.(M)	PLSC1597
IC107	K4S643233H-HN75	I.C.(M)	SAMSUNG
IC108	AK4363VF-X	I.C.(M)	ASAHI KASEI
IC110	LTC3411EDD-X	I.C.(M)	LINEAR
IC111	SC192IML-X	I.C.(M)	SEMTECH

Symbol No.	Part No.	Part Name	Description
IC112	SC192IML-X	I.C.(M)	SEMTECH
IC113	LTC3414EFE-X	I.C.(M)	LINEAR
IC114	TC7SH04FU-X	I.C.(M)	TOSHIBA
IC115	MM1571JN-X	I.C.(M)	MITSUMI
Q1	DTC124EUA-X	TRANSISTOR	ROHM
Q2	DTA124EUA-X	TRANSISTOR	ROHM
Q3	DTC124EUA-X	TRANSISTOR	ROHM
Q4	DTA124EUA-X	TRANSISTOR	ROHM
Q5	DTC124EUA-X	TRANSISTOR	ROHM
Q6	DTA124EUA-X	TRANSISTOR	ROHM
Q7	DTC124EUA-X	TRANSISTOR	ROHM
Q8	DTC124EUA-X	TRANSISTOR	ROHM
Q25	DTA114EUA-X	TRANSISTOR	ROHM
Q26	UMC3N-W	TRANSISTOR	ROHM
Q27	UMC3N-W	TRANSISTOR	ROHM
Q28	DTC143EUA-X	TRANSISTOR	ROHM
Q37	DTC124EUA-X	TRANSISTOR	ROHM
Q38	RSQ035P03-W	TRANSISTOR	ROHM
Q39	RTQ035N03-W	TRANSISTOR	MITSUBISHI
Q100	2SC4626J/BC/-X	TRANSISTOR	MATSUSHITA
D1	1SS357-X	DIODE	TOSHIBA
D21	DAN202U-X	DIODE	ROHM
D22	DAN202U-X	DIODE	ROHM
D23	EC2C01C-TR-X	VARI CAP DIODE	SANYO
D24	EC2C01C-TR-X	VARI CAP DIODE	SANYO
D25	EC2C01C-TR-X	VARI CAP DIODE	SANYO
D48	MA142A-X	DIODE	MATSUSHITA
D49	MA142A-X	DIODE	MATSUSHITA
D50	MA142A-X	DIODE	MATSUSHITA
D51	MA142A-X	DIODE	MATSUSHITA
D100	MA8091/L/-X	ZENER DIODE	MATSUSHITA
R15	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R27	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R28	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R34	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R49	NRSA6AD-124W	M.G.RESISTOR	120k 1/16W
R50	NRSA6AD-123W	M.G.RESISTOR	12k 1/16W
R51	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R52	NRSA6AD-394W	M.G.RESISTOR	390k 1/16W
R53	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R55	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R83	NRSA6AD-272W	M.G.RESISTOR	2.7k 1/16W
R85	NRSA6AD-272W	M.G.RESISTOR	2.7k 1/16W
R89	NRSA6AJ-0R0W	M.G.RESISTOR	0 1/16W
R91	NRSA6AD-153W	M.G.RESISTOR	15k 1/16W
R92	NRSA6AD-103W	M.G.RESISTOR	10k 1/16W
R99	NRSA6AD-473W	M.G.RESISTOR	47k 1/16W
R100	NRSA6AD-473W	M.G.RESISTOR	47k 1/16W
R101	NRSA6AD-473W	M.G.RESISTOR	47k 1/16W
R102	NRSA6AD-473W	M.G.RESISTOR	47k 1/16W
R103	NRSA63J-150X	M.G.RESISTOR	15 1/16W
R105	NRSA6AD-272W	M.G.RESISTOR	2.7k 1/16W
R108	NRSA6AD-821W	M.G.RESISTOR	820 1/16W
R109	NRSA6AD-220W	M.G.RESISTOR	22 1/16W
R110	NRSA6AD-680W	M.G.RESISTOR	68 1/16W
R111	NRSA63D-392X	M.G.RESISTOR	3.9k 1/16W
R112	NRSA63D-473X	M.G.RESISTOR	47k 1/16W
R113	NRSA63D-112X	M.G.RESISTOR	1.1k 1/16W
R114	NRSA63D-332X	M.G.RESISTOR	3.3k 1/16W
R115	NRSA63D-392X	M.G.RESISTOR	3.9k 1/16W
R116	NRSA63D-473X	M.G.RESISTOR	47k 1/16W
R117	NRSA63D-112X	M.G.RESISTOR	1.1k 1/16W
R118	NRSA63D-332X	M.G.RESISTOR	3.3k 1/16W
R119	NRSA63D-182X	M.G.RESISTOR	1.8k 1/16W
R120	NRSA63D-183X	M.G.RESISTOR	18k 1/16W
R121	NRSA63D-112X	M.G.RESISTOR	1.1k 1/16W
R122	NRSA63D-821X	M.G.RESISTOR	820 1/16W
R123	NRSA63D-102X	M.G.RESISTOR	1k 1/16W
R124	NRSA63D-102X	M.G.RESISTOR	1k 1/16W

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Symbol No.	Part No.	Part Name	Description	
R125	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R128	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R129	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R130	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R153	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R156	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R159	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R174	NRSA6AD-270W	M.G.RESISTOR	27	1/16W
R175	NRSA6AD-270W	M.G.RESISTOR	27	1/16W
R176	NRSA6AD-270W	M.G.RESISTOR	27	1/16W
R177	NRSA6AD-124W	M.G.RESISTOR	120k	1/16W
R178	NRSA6AD-123W	M.G.RESISTOR	12k	1/16W
R179	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R180	NRSA6AD-394W	M.G.RESISTOR	390k	1/16W
R181	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R183	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R185	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R186	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R187	NRSA6AD-472W	M.G.RESISTOR	4.7k	1/16W
R188	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R189	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R190	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R191	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R192	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R193	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R194	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R195	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R196	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R197	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R198	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R200	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R201	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R202	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R203	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R204	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R205	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R206	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R207	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R208	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R209	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R210	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R211	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R212	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R213	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R214	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R215	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R216	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R217	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R218	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R219	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R220	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R223	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R225	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R226	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R227	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R228	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R229	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R230	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R231	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R232	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R233	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R234	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R235	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R236	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R237	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R238	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R239	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R242	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R244	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R245	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R246	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R247	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W

Symbol No.	Part No.	Part Name	Description	
R248	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R249	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R250	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R251	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R252	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R253	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R254	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R255	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R256	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R257	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R258	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R259	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R260	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R261	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R262	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R263	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R264	NRSA6AD-222W	M.G.RESISTOR	2.2k	1/16W
R265	NRSA6AD-222W	M.G.RESISTOR	2.2k	1/16W
R267	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R268	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R271	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R272	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R274	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R275	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R276	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R277	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R281	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R283	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R284	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R285	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R286	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R287	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R288	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R289	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R291	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R292	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R293	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R294	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R295	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R296	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R297	NRSA6AJ-105W	M.G.RESISTOR	1M	1/16W
R298	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R299	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R300	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R301	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R302	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R303	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R305	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R306	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R307	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R308	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R309	NRSA6AD-182W	M.G.RESISTOR	1.8k	1/16W
R310	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R311	NRSA6AD-222W	M.G.RESISTOR	2.2k	1/16W
R312	NRSA6AD-124W	M.G.RESISTOR	120k	1/16W
R313	NRSA6AD-124W	M.G.RESISTOR	120k	1/16W
R314	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R315	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R317	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R321	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R323	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R324	NRSA6AD-392W	M.G.RESISTOR	3.9k	1/16W
R325	NRSA6AD-392W	M.G.RESISTOR	3.9k	1/16W
R326	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R327	NRSA6AD-392W	M.G.RESISTOR	3.9k	1/16W
R328	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R329	NRSA6AD-622W	M.G.RESISTOR	6.2k	1/16W
R330	NRSA6AD-622W	M.G.RESISTOR	6.2k	1/16W
R331	NRSA6AD-622W	M.G.RESISTOR	6.2k	1/16W
R332	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R333	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R334	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R335	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W

Symbol No.	Part No.	Part Name	Description	
R336	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R337	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R338	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R339	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R340	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R342	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R344	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R346	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R347	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R349	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R350	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R353	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R354	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R355	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R356	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R357	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R359	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R360	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R361	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R362	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R363	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R364	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R365	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R366	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R367	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R514	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R532	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R536	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R537	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R539	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R567	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R568	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R569	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R570	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R571	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R572	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R573	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R574	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R575	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R576	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R577	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R578	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R579	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R580	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R581	NRSA6AD-390W	M.G.RESISTOR	39	1/16W
R582	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R583	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R584	NRSA6AD-332W	M.G.RESISTOR	3.3k	1/16W
R585	NRSA6AD-332W	M.G.RESISTOR	3.3k	1/16W
R587	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R589	NRSA6AD-332W	M.G.RESISTOR	3.3k	1/16W
R590	NRSA6AD-332W	M.G.RESISTOR	3.3k	1/16W
R593	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R594	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R595	NRSA6AD-273W	M.G.RESISTOR	27k	1/16W
R596	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R597	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R598	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R599	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R600	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R601	NRSA6AD-332W	M.G.RESISTOR	3.3k	1/16W
R602	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R603	NRSA6AD-332W	M.G.RESISTOR	3.3k	1/16W
R604	NRSA6AD-332W	M.G.RESISTOR	3.3k	1/16W
R605	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R606	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R607	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R608	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R609	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R610	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R611	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R612	NRSA6AD-332W	M.G.RESISTOR	3.3k	1/16W
R613	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R614	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R615	NRSA6AD-222W	M.G.RESISTOR	2.2k	1/16W
R616	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R617	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R618	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R619	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R620	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R621	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R622	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R623	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R624	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R625	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R626	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R627	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R628	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R629	NRSA6AD-221W	M.G.RESISTOR	220	1/16W
R630	NRSA6AD-182W	M.G.RESISTOR	1.8k	1/16W
R631	NRSA6AD-471W	M.G.RESISTOR	470	1/16W
R632	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R634	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R635	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R636	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R642	NRSA6AD-122W	M.G.RESISTOR	1.2k	1/16W
R644	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R645	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R646	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R648	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R649	NRSA6AD-302W	M.G.RESISTOR	3k	1/16W
R650	NRSA6AD-151W	M.G.RESISTOR	150	1/16W
R651	NRSA6AD-302W	M.G.RESISTOR	3k	1/16W
R652	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R653	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R654	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R655	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R656	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R659	NRSA6AD-562W	M.G.RESISTOR	5.6k	1/16W
R661	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R662	NRSA6AD-222W	M.G.RESISTOR	2.2k	1/16W
R663	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R664	NRSA6AD-224W	M.G.RESISTOR	220k	1/16W
R665	NRSA6AD-222W	M.G.RESISTOR	2.2k	1/16W
R667	NRSA6AD-242W	M.G.RESISTOR	2.4k	1/16W
R668	NRSA6AD-392W	M.G.RESISTOR	3.9k	1/16W
R669	NRSA6AD-392W	M.G.RESISTOR	3.9k	1/16W
R670	NRSA6AD-560W	M.G.RESISTOR	56	1/16W
R671	NRSA6AD-560W	M.G.RESISTOR	56	1/16W
R672	NRSA6AD-333W	M.G.RESISTOR	33k	1/16W
R673	NRSA6AD-560W	M.G.RESISTOR	56	1/16W
R674	NRSA6AD-560W	M.G.RESISTOR	56	1/16W
R675	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R679	NRSA6AD-512W	M.G.RESISTOR	5.1k	1/16W
R680	NRSA6AJ-105W	M.G.RESISTOR	1M	1/16W
R681	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R683	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R684	NRSA6AD-681W	M.G.RESISTOR	680	1/16W
R686	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R687	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R688	NRSA6AD-471W	M.G.RESISTOR	470	1/16W
R689	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R691	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R693	NRSA6AD-224W	M.G.RESISTOR	220k	1/16W
R695	NRSA6AD-222W	M.G.RESISTOR	2.2k	1/16W
R696	NRSA6AD-224W	M.G.RESISTOR	220k	1/16W
R698	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R711	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R712	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R750	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R751	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R752	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R754	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R755	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R757	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R758	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W

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Symbol No.	Part No.	Part Name	Description	
R760	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R761	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R767	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R770	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R771	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R772	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R785	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R786	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R787	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R788	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R790	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R791	NRSA6AJ-105W	M.G.RESISTOR	1M	1/16W
R792	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R793	NRSA6AD-394W	M.G.RESISTOR	390k	1/16W
R794	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R796	NRSA6AD-562W	M.G.RESISTOR	5.6k	1/16W
R797	NRSA6AD-751W	M.G.RESISTOR	750	1/16W
R798	NRSA6AD-560W	M.G.RESISTOR	56	1/16W
R799	NRSA6AD-560W	M.G.RESISTOR	56	1/16W
R800	NRSA6AD-560W	M.G.RESISTOR	56	1/16W
R801	NRSA6AD-560W	M.G.RESISTOR	56	1/16W
R802	NRSA6AD-512W	M.G.RESISTOR	5.1k	1/16W
R803	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R804	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R805	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R806	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R807	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R808	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R809	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R810	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R811	NRSA6AD-470W	M.G.RESISTOR	47	1/16W
R816	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R818	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R819	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R821	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R822	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R823	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R824	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R825	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R826	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R828	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R829	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R830	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R831	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R834	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R840	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R841	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R842	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R843	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R844	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R845	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R846	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R847	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R848	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R849	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R850	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R851	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R852	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R853	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R854	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R855	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R856	NRSA6AD-330W	M.G.RESISTOR	33	1/16W
R857	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R858	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R859	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R860	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R861	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R862	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R863	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R867	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R868	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R869	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W

Symbol No.	Part No.	Part Name	Description	
R870	NRSA6AD-472W	M.G.RESISTOR	4.7k	1/16W
R871	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R872	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R873	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R874	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R876	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R878	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R879	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R880	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R882	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R883	NRSA6AJ-5R6W	M.G.RESISTOR	5.6	1/16W
R885	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R887	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R889	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R890	NRSA6AJ-5R6W	M.G.RESISTOR	5.6	1/16W
R891	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R892	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R893	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R894	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R896	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R912	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R913	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R914	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R915	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R920	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R923	NRSA6AD-471W	M.G.RESISTOR	470	1/16W
R928	NRSA6AD-101W	M.G.RESISTOR	100	1/16W
R930	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R931	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R934	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R935	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R937	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R938	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R939	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R940	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R941	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R943	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R945	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R946	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R947	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R1034	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R1037	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R1038	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R1039	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R1040	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R1041	NRSA6AD-123W	M.G.RESISTOR	12k	1/16W
R1042	NRSA6AD-393W	M.G.RESISTOR	39k	1/16W
R1043	NRSA6AD-334W	M.G.RESISTOR	330k	1/16W
R1045	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1046	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1047	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R1048	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1049	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1050	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R1051	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R1052	NRSA6AD-102W	M.G.RESISTOR	1k	1/16W
R1053	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1054	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1055	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1056	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1057	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1058	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1059	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1060	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1061	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1062	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1063	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1064	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1065	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1066	NRSA6AJ-3R9W	M.G.RESISTOR	3.9	1/16W
R1067	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R1070	NRSA6AD-512W	M.G.RESISTOR	5.1k	1/16W
R1071	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W

Symbol No.	Part No.	Part Name	Description	
R1072	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R1076	NRSA6AD-154W	M.G.RESISTOR	150k	1/16W
R1077	NRSA6AD-123W	M.G.RESISTOR	12k	1/16W
R1078	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1079	NRSA6AD-123W	M.G.RESISTOR	12k	1/16W
R1080	NRSA6AD-334W	M.G.RESISTOR	330k	1/16W
R1081	NRSA6AD-474W	M.G.RESISTOR	470k	1/16W
R1082	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1083	NRSA6AD-334W	M.G.RESISTOR	330k	1/16W
R1084	NRSA6AD-224W	M.G.RESISTOR	220k	1/16W
R1085	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1086	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1087	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1089	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1090	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1092	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1095	NRSA6AD-104W	M.G.RESISTOR	100k	1/16W
R1096	NRSA6AD-123W	M.G.RESISTOR	12k	1/16W
R1097	NRSA6AD-472W	M.G.RESISTOR	4.7k	1/16W
R1098	NRSA6AD-304W	M.G.RESISTOR	300k	1/16W
R1099	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1101	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1104	NRSA6AD-334W	M.G.RESISTOR	330k	1/16W
R1105	NRSA6AD-224W	M.G.RESISTOR	220k	1/16W
R1106	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R1107	NRSA6AD-304W	M.G.RESISTOR	300k	1/16W
R1108	NRSA6AD-203W	M.G.RESISTOR	20k	1/16W
R1109	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1110	NRSA6AJ-225W	M.G.RESISTOR	2.2M	1/16W
R1111	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1116	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R1117	NRSA6AD-622W	M.G.RESISTOR	6.2k	1/16W
R1118	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1119	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1120	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1121	NRSA6AD-473W	M.G.RESISTOR	47k	1/16W
R1122	NRSA6AD-272W	M.G.RESISTOR	2.7k	1/16W
R1126	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R1127	NRSA6AD-103W	M.G.RESISTOR	10k	1/16W
R1128	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R1129	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R1130	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R1131	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R1132	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R1133	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R1134	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R1135	NRSA6AD-220W	M.G.RESISTOR	22	1/16W
R1136	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1137	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1138	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1139	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1140	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1141	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1142	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1143	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1144	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1145	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R1146	NRSA6AJ-0R0W	M.G.RESISTOR	0	1/16W
R2100	NRSA6AD-392W	M.G.RESISTOR	3.9k	1/16W
R2101	NRSA6AD-332W	M.G.RESISTOR	3.3k	1/16W
RA61	NRZ0015-101X	RESISTOR ARRAY	100	
RA62	NRZ0015-101X	RESISTOR ARRAY	100	
RA65	NRZ0015-102X	RESISTOR ARRAY	1k	
RA68	NRZ0015-103X	RESISTOR ARRAY	10k	
RA69	NRZ0015-103X	RESISTOR ARRAY	10k	
RA79	NRZ0015-473X	RESISTOR ARRAY	47k	
RA80	NRZ0015-473X	RESISTOR ARRAY	47k	
C1	NCB11AK-106X	CER.CAPACITOR	10	10V
C3	NCB11AK-106X	CER.CAPACITOR	10	10V
C4	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
C5	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C6	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C7	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C8	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C9	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C10	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C11	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C12	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C13	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C14	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C15	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C16	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C17	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C18	NDCA1HJ-471W	CER.CAPACITOR	470p	50V
C19	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C20	NDCA1HJ-470W	CER.CAPACITOR	47p	50V
C21	NCB11AK-106X	CER.CAPACITOR	10	10V
C22	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C23	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C24	NCB11AK-106X	CER.CAPACITOR	10	10V
C27	NCB11AK-106X	CER.CAPACITOR	10	10V
C28	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C29	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C30	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C31	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C32	NCB11AK-106X	CER.CAPACITOR	10	10V
C33	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C34	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C35	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C36	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C39	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C40	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C47	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C48	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C49	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C50	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C51	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C52	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C57	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C59	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C60	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C61	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C62	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C63	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C64	NCB11AK-106X	CER.CAPACITOR	10	10V
C65	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C66	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C67	NDC31HJ-5R0X	CER.CAPACITOR	5p	50V
C68	NDC31HJ-5R0X	CER.CAPACITOR	5p	50V
C69	NDC31HJ-5R0X	CER.CAPACITOR	5p	50V
C70	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C71	NDCA1HJ-330W	CER.CAPACITOR	33p	50V
C72	NDCA1HJ-330W	CER.CAPACITOR	33p	50V
C73	NDCA1HJ-330W	CER.CAPACITOR	33p	50V
C75	NDCA1HJ-560W	CER.CAPACITOR	56p	50V
C76	NDCA1HJ-560W	CER.CAPACITOR	56p	50V
C77	NDCA1HJ-560W	CER.CAPACITOR	56p	50V
C78	NDCA1HJ-470W	CER.CAPACITOR	47p	50V
C79	NDCA1HJ-470W	CER.CAPACITOR	47p	50V
C80	NDCA1HJ-470W	CER.CAPACITOR	47p	50V
C83	NDCA1EJ-270W	CER.CAPACITOR	27p	25V
C84	NDCA1EJ-270W	CER.CAPACITOR	27p	25V
C85	NDCA1EJ-270W	CER.CAPACITOR	27p	25V
C86	NDCA1EJ-271W	CER.CAPACITOR	270p	25V
C87	NDCA1EJ-271W	CER.CAPACITOR	270p	25V
C88	NDCA1EJ-271W	CER.CAPACITOR	270p	25V
C89	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C90	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C91	NCB11AK-106X	CER.CAPACITOR	10	10V
C92	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C93	NCB11AK-106X	CER.CAPACITOR	10	10V
C94	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C107	NDCA1HJ-471W	CER.CAPACITOR	470p	50V

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Symbol No.	Part No.	Part Name	Description	
C108	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C109	NDCA1HJ-470W	CER.CAPACITOR	47p	50V
C110	NCB11AK-106X	CER.CAPACITOR	10	10V
C111	NCB11AK-106X	CER.CAPACITOR	10	10V
C113	NCB11AK-106X	CER.CAPACITOR	10	10V
C114	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C115	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C116	NCB11AK-106X	CER.CAPACITOR	10	10V
C117	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C118	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C120	NDCA1HJ-3R0W	CER.CAPACITOR	3p	50V
C121	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C122	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C124	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C126	NDCA1HJ-3R0W	CER.CAPACITOR	3p	50V
C128	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C131	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C132	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C135	NCB11AK-106X	CER.CAPACITOR	10	10V
C136	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C137	NCB11AK-106X	CER.CAPACITOR	10	10V
C138	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C139	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C146	NCB11AK-106X	CER.CAPACITOR	10	10V
C147	NCB11AK-106X	CER.CAPACITOR	10	10V
C148	NCB11AK-106X	CER.CAPACITOR	10	10V
C149	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C150	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C151	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C152	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C153	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C154	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C155	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C156	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C157	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C158	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C159	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C160	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C161	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C162	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C163	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C164	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C165	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C166	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C167	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C168	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C169	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C170	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C171	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C172	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C173	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C174	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C175	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C176	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C177	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C178	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C182	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C183	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C184	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C185	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C186	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C187	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C188	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C189	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C190	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C191	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C192	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C193	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C194	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C195	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C196	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C197	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C198	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C199	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C200	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C201	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C202	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C203	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C204	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C205	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C206	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C207	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C208	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C209	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C210	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C217	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C218	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C219	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C220	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C221	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C222	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C223	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C224	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C225	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C226	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C227	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C228	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C229	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C230	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C231	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C233	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C234	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C235	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C236	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C237	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C238	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C239	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C240	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C241	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C242	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C243	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C244	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C246	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C247	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C248	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C249	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C250	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C251	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C252	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C253	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C254	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C255	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C256	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C258	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C305	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C306	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C307	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C308	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C309	NDCA1HJ-150W	CER.CAPACITOR	15p	50V
C310	NDCA1HJ-150W	CER.CAPACITOR	15p	50V
C311	NCBA1CK-223W	CER.CAPACITOR	0.022	16V
C312	NCBA1CK-223W	CER.CAPACITOR	0.022	16V
C313	NCB11AK-106X	CER.CAPACITOR	10	10V
C314	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C315	NCBA1HK-102W	CER.CAPACITOR	1000p	50V
C316	NCBA1CK-223W	CER.CAPACITOR	0.022	16V
C317	NCBA1CK-223W	CER.CAPACITOR	0.022	16V
C318	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C319	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C320	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C321	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C323	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C324	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C325	NCB11AK-106X	CER.CAPACITOR	10	10V
C326	NCB11AK-106X	CER.CAPACITOR	10	10V

Symbol No.	Part No.	Part Name	Description	
C327	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C328	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C329	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C330	NCB11AK-106X	CER.CAPACITOR	10	10V
C331	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C332	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C333	NCB11AK-106X	CER.CAPACITOR	10	10V
C334	NCBA1HK-102W	CER.CAPACITOR	1000p	50V
C335	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C336	NCBA1HK-102W	CER.CAPACITOR	1000p	50V
C337	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C338	NDCA1HJ-151W	CER.CAPACITOR	150p	50V
C339	NCB30JK-225X	CER.CAPACITOR	2.2	6.3V
C340	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C341	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C342	NCBA1AK-473W	CER.CAPACITOR	0.047	10V
C343	NCB30JK-225X	CER.CAPACITOR	2.2	6.3V
C344	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C345	NCB11AK-106X	CER.CAPACITOR	10	10V
C346	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C347	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C348	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C349	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C350	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C351	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C352	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C353	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C354	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C355	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C356	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C357	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C358	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C359	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C360	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C361	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C363	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C365	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C366	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C367	NDCA1HJ-390W	CER.CAPACITOR	39p	50V
C368	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C369	NDCA1HJ-102W	CER.CAPACITOR	1000p	50V
C370	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C371	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C372	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C373	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C374	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C375	NDCA1EJ-271W	CER.CAPACITOR	270p	25V
C376	NDCA1HJ-6R0W	CER.CAPACITOR	6p	50V
C377	NDCA1HJ-6R0W	CER.CAPACITOR	6p	50V
C378	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C379	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C380	NCBA1HK-222W	CER.CAPACITOR	2200p	50V
C381	NCBA1AK-473W	CER.CAPACITOR	0.047	10V
C383	NCBA1HK-102W	CER.CAPACITOR	1000p	50V
C384	NDCA1HJ-390W	CER.CAPACITOR	39p	50V
C385	NCBA1HK-102W	CER.CAPACITOR	1000p	50V
C386	NDCA1HJ-470W	CER.CAPACITOR	47p	50V
C388	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C389	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C395	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C396	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C397	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C398	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C399	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C400	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C401	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C402	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C403	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C404	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C405	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C406	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C407	NDCA1HJ-101W	CER.CAPACITOR	100p	50V
C408	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C409	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C414	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C416	NCB11AK-106X	CER.CAPACITOR	10	10V
C418	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C419	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C421	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C422	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C423	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C428	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C429	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C430	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C431	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C432	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C433	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C434	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C435	NDCA1EJ-271W	CER.CAPACITOR	270p	25V
C437	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C438	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C439	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C440	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C441	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C442	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C443	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C444	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C445	NCB11AK-106X	CER.CAPACITOR	10	10V
C446	NCBA1HK-102W	CER.CAPACITOR	1000p	50V
C447	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C448	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C449	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C450	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C451	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C452	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C453	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C454	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C455	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C457	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C461	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C462	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C463	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C469	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C472	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C473	NCBA1HK-102W	CER.CAPACITOR	1000p	50V
C476	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C477	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C486	NCBA1HK-102W	CER.CAPACITOR	1000p	50V
C488	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C490	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C491	NCBA1CK-103W	CER.CAPACITOR	0.01	16V
C542	NCB11EK-105X	CER.CAPACITOR	1	25V
C543	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C544	NCB11EK-105X	CER.CAPACITOR	1	25V
C545	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C546	NCB11EK-105X	CER.CAPACITOR	1	25V
C547	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C548	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C549	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C550	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C551	NCBA1EK-682W	CER.CAPACITOR	6800p	25V
C552	NCBA1EK-682W	CER.CAPACITOR	6800p	25V
C553	NCBA1EK-682W	CER.CAPACITOR	6800p	25V
C554	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C555	NCB11AK-106X	CER.CAPACITOR	10	10V
C556	NCB11AK-106X	CER.CAPACITOR	10	10V
C557	NDCA1HJ-471W	CER.CAPACITOR	470p	50V
C558	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C559	NDCA1HJ-470W	CER.CAPACITOR	47p	50V
C560	NCB11AK-106X	CER.CAPACITOR	10	10V
C561	NCB11AK-106X	CER.CAPACITOR	10	10V
C565	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C566	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C567	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C568	NCBA1AK-104W	CER.CAPACITOR	0.1	10V
C569	NCBA1AK-104W	CER.CAPACITOR	0.1	10V

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Symbol No.	Part No.	Part Name	Description
C570	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C571	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C572	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C573	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C574	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C575	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C576	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C577	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C578	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C579	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C580	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C581	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C582	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C583	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C584	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C585	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C586	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C587	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C588	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C589	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C590	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C591	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C592	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C593	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C594	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C595	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C596	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C597	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C598	NCB31AK-224X	CER.CAPACITOR	0.22 10V
C605	NDCA1HJ-471W	CER.CAPACITOR	470p 50V
C606	NDCA1HJ-471W	CER.CAPACITOR	470p 50V
C607	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C608	NCBA1HK-102W	CER.CAPACITOR	1000p 50V
C609	NDCA1HJ-470W	CER.CAPACITOR	47p 50V
C610	NCB11AK-106X	CER.CAPACITOR	10 10V
C612	NBS40JM-686X	TAN.CAPACITOR	68 6.3V
C613	NCB11AK-106X	CER.CAPACITOR	10 10V
C614	NCB11AK-106X	CER.CAPACITOR	10 10V
C617	NDCA1HJ-471W	CER.CAPACITOR	470p 50V
C618	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C620	NDCA1HJ-470W	CER.CAPACITOR	47p 50V
C621	NCB11AK-106X	CER.CAPACITOR	10 10V
C622	NCB11AK-106X	CER.CAPACITOR	10 10V
C624	NDCA1HJ-100W	CER.CAPACITOR	10p 50V
C625	NDCA1HJ-100W	CER.CAPACITOR	10p 50V
C626	NDCA1HJ-471W	CER.CAPACITOR	470p 50V
C627	NCBA1HK-102W	CER.CAPACITOR	1000p 50V
C628	NCB11AK-106X	CER.CAPACITOR	10 10V
C629	NBJM0JM-157X	TAN.CAPACITOR	150 6.3V
C630	NBSH0JM-337X	TAN.CAPACITOR	330 6.3V
C632	NCBA1AK-104W	CER.CAPACITOR	0.1 10V
C633	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C634	NCBA1CK-103W	CER.CAPACITOR	0.01 16V
C635	NCB30JK-105X	CER.CAPACITOR	1 6.3V
C2000	NCBA1CK-103W	CER.CAPACITOR	0.01 16V
L1	NQL89EN-6R8X	COIL	6.8uH
L3	NQL904J-1R0X	COIL	1uH
L4	NQL904J-1R0X	COIL	1uH
L5	NQL904J-1R0X	COIL	1uH
L6	NQL904J-1R0X	COIL	1uH
L7	NQL904J-1R0X	COIL	1uH
L8	NQL904J-1R0X	COIL	1uH
L9	NQL904J-1R0X	COIL	1uH
L10	NQL904J-1R0X	COIL	1uH
L11	NQL904J-1R0X	COIL	1uH
L15	NQL89EN-6R8X	COIL	6.8uH
L27	NQL044K-100X	COIL	10uH
L28	NQL904J-2R2X	COIL	2.2uH
L29	NQR0276-002X	COIL	0mH
L30	NQL904J-120X	COIL	12uH
L31	NQL904J-100X	COIL	10uH

Symbol No.	Part No.	Part Name	Description
L33	NQR0276-002X	COIL	0mH
L35	NQL085J-2R2X	COIL	2.2uH
L36	NQL085J-2R2X	COIL	2.2uH
L40	NQL89EN-6R8X	COIL	6.8uH
L42	NQL89EN-2R4X	COIL	2.4uH
L43	NQL89EN-6R8X	COIL	6.8uH
L44	NQL89EN-6R8X	COIL	6.8uH
L45	NQLC2EM-3R3X	COIL	3.3uH
L46	NQL044K-100X	COIL	10uH
L47	NQL044K-100X	COIL	10uH
X1	NAX0608-001X	CRYSTAL	13.5MHz
X2	NAX0723-001X	CRYSTAL	8.5MHz
X6	NAX0348-001X	CRYSTAL	27MHz
X8	NAX0206-001X	CRYSTAL	24.567MHz
X9	NAX0485-001X	CRYSTAL	27.000MHz
CN3	QGA1002F1-12X	CONNECTOR	12PIN
CN16	QGF0508F2-50X	CONNECTOR	50PIN
CN17	QGF0508F2-16X	CONNECTOR	16PIN
CN18	QGF0508F1-10X	CONNECTOR	10PIN
CN19	QGA1002C1-13X	CONNECTOR	13PIN
CN26	QGB0801K1-54X	CONNECTOR	54PIN
CN27	QGB0801M2-54X	CONNECTOR	54PIN
CN28	QGB0801M2-54X	CONNECTOR	54PIN
CN29	QGA1201C2-11X	CONNECTOR	11PIN
CN30	QGF0534F1-20X	CONNECTOR	20PIN
CN49	QGB0805L4-E0	CONNECTOR	140PIN
CN50	NNZ0138-001X	CONNECTOR	
CN52	NNZ0133-001X	CONNECTOR	
CN53	NNZ0133-001X	CONNECTOR	
CN54	NNZ0138-001X	CONNECTOR	
K1	NQR0200-005X	FERRITE BEADS	
K2	NQR0200-005X	FERRITE BEADS	
K6	NQR0265-001X	FERRITE BEADS	
K21	NQR0265-001X	FERRITE BEADS	
K23	NQR0413-002X	FERRITE BEADS	
K24	NQR0413-002X	FERRITE BEADS	
K25	NQR0200-005X	FERRITE BEADS	
K26	NQR0200-005X	FERRITE BEADS	
K27	NQR0200-005X	FERRITE BEADS	
K28	NQR0200-005X	FERRITE BEADS	
K29	NQR0200-005X	FERRITE BEADS	
K30	NQR0200-005X	FERRITE BEADS	
K31	NQR0200-005X	FERRITE BEADS	
K32	NQR0200-005X	FERRITE BEADS	
K33	NQR0200-005X	FERRITE BEADS	
K34	NQR0200-004X	FERRITE BEADS	
K35	NQR0200-004X	FERRITE BEADS	
K36	NQR0200-004X	FERRITE BEADS	
K37	NQR0200-004X	FERRITE BEADS	
K38	NQR0200-004X	FERRITE BEADS	
K39	NQR0200-005X	FERRITE BEADS	
K40	NQR0200-005X	FERRITE BEADS	
K41	NQR0200-005X	FERRITE BEADS	
K42	NQR0200-004X	FERRITE BEADS	
K45	NQR0200-005X	FERRITE BEADS	
K46	NQR0200-005X	FERRITE BEADS	
K47	NQR0200-005X	FERRITE BEADS	
K48	NQR0200-005X	FERRITE BEADS	
K49	NQR0200-005X	FERRITE BEADS	
K50	NQR0200-005X	FERRITE BEADS	
K51	NQR0200-005X	FERRITE BEADS	
K52	NQR0200-005X	FERRITE BEADS	
K53	NQR0200-005X	FERRITE BEADS	
K54	NQR0200-005X	FERRITE BEADS	
K55	NQR0200-005X	FERRITE BEADS	
K56	NQR0200-005X	FERRITE BEADS	
K57	NQR0448-001X	FERRITE BEADS	
K59	NQR0265-001X	FERRITE BEADS	
K60	NQR0265-001X	FERRITE BEADS	

6.5 MIF BOARD ASSEMBLY PARTS LIST 2 0

CK2801A0B1 (GY-HD100U)

CK2801B0B1 (GY-HD100E) 2 0 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description		
IC58	PLSC1590	I.C.(M)	HD64F2368VTE34V		
IC59	TC7W34FU-X	I.C.(M)	TOSHIBA		
IC60	TC7W74FU-X	I.C.(M)	TOSHIBA		
IC61	M95320-WMN6P-X	I.C.(M)	MITSUBISHI		
IC62	MM1573AN-X	I.C.(M)	MITSUMI		
IC63	RS5C314-X	I.C.(M)	RICOH		
IC64	R3112N261A-X	I.C.(M)	RICOH		
IC65	LC4064V75T100C1	I.C.(M)	LATTICE		
IC66	LC4128V75T100C2	I.C.(M)	LATTICE		
IC67	SN74AHC1G14DC-X	I.C.(M)	TEXAS		
IC68	SN74AHC1G14DC-X	I.C.(M)	TEXAS		
IC96	XC2C2567VQG100C	I.C.(M)	XILINX		
IC97	S29AL016D70TFI1	I.C.(M)	SPANSION		
IC98	TC7W34FU-X	I.C.(M)	TOSHIBA		
IC99	CXM3004R	I.C.(M)	SONY		
IC100	AK5357VT-X	I.C.(M)	ASAHI KASEI		
IC101	AK4384VT-X	I.C.(M)	ASAHI KASEI		
IC109	NJM78L12UA-X	I.C.(M)	JRC		
Q1	DTC124EUA-X	TRANSISTOR	ROHM		
Q2	DTC124EUA-X	TRANSISTOR	ROHM		
Q11	DTA124EUA-X	TRANSISTOR	ROHM		
Q12	DTC124EUA-X	TRANSISTOR	ROHM		
Q13	DTA124EUA-X	TRANSISTOR	ROHM		
Q14	SSM3K15FS-X	TRANSISTOR	TOSHIBA		
Q16	DTC124EUA-X	TRANSISTOR	ROHM		
Q17	DTC124EUA-X	TRANSISTOR	ROHM		
Q20	DTC124EUA-X	TRANSISTOR	ROHM		
Q21	2SC4626J/BC/-X	TRANSISTOR	MATSUSHITA		
Q22	DTA124EUA-X	TRANSISTOR	ROHM		
Q24	DTC124EUA-X	TRANSISTOR	ROHM		
Q29	DTC124EUA-X	TRANSISTOR	ROHM		
Q30	DTC124EUA-X	TRANSISTOR	ROHM		
Q31	2SA1790J/BC/-X	TRANSISTOR	MATSUSHITA		
Q32	DTC124EUA-X	TRANSISTOR	ROHM		
Q33	2SC4626J/BC/-X	TRANSISTOR	MATSUSHITA		
Q34	2SA1790J/BC/-X	TRANSISTOR	MATSUSHITA		
Q35	2SC4626J/BC/-X	TRANSISTOR	MATSUSHITA		
Q36	2SA1790J/BC/-X	TRANSISTOR	MATSUSHITA		
Q37	DTC124EUA-X	TRANSISTOR	ROHM		
Q500	DTC124EUA-X	TRANSISTOR	ROHM		
Q913	DTA124EUA-X	TRANSISTOR	ROHM		
Q914	DTA124EUA-X	TRANSISTOR	ROHM		
D1	SML-020MVT-W	L.E.D.	ROHM		
D18	HZM3.9NB2-X	ZENER DIODE	HITACHI		
D19	MA741WK-X	DIODE	MATSUSHITA		
D20	MA741WK-X	DIODE	MATSUSHITA		
D36	SML-020MVT-W	L.E.D.	ROHM		
D46	HZM3.0NB1-X	ZENER DIODE	HITACHI		
D47	HZM3.9NB2-X	ZENER DIODE	HITACHI		
R4	NRSA63J-101X	M.G.RESISTOR	100	1/16W	
R5	NRSA63J-101X	M.G.RESISTOR	100	1/16W	
R6	NRSA63J-101X	M.G.RESISTOR	100	1/16W	
R7	NRSA63J-101X	M.G.RESISTOR	100	1/16W	
R8	NRSA63J-101X	M.G.RESISTOR	100	1/16W	
R369	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R370	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R371	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R372	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R373	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R375	NRSA63J-104X	M.G.RESISTOR	100k	1/16W	
R377	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R378	NRSA63J-103X	M.G.RESISTOR	10k	1/16W	
R379	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R381	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R382	NRSA63J-683X	M.G.RESISTOR	68k	1/16W	
R383	NRSA63J-223X	M.G.RESISTOR	22k	1/16W	
R384	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R385	NRSA63J-223X	M.G.RESISTOR	22k	1/16W	
R387	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R388	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R389	NRSA63J-102X	M.G.RESISTOR	1k	1/16W	
R390	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R392	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R393	NRSA63J-101X	M.G.RESISTOR	100	1/16W	
R395	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R396	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R397	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R399	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R400	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R401	NRSA63J-102X	M.G.RESISTOR	1k	1/16W	
R402	NRSA63J-333X	M.G.RESISTOR	33k	1/16W	
R403	NRSA63J-683X	M.G.RESISTOR	68k	1/16W	
R404	NRSA63J-752X	M.G.RESISTOR	7.5k	1/16W	
R405	NRSA63J-123X	M.G.RESISTOR	12k	1/16W	
R406	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R408	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R409	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R411	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W	
R413	NRSA63J-223X	M.G.RESISTOR	22k	1/16W	
R414	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R415	NRSA63J-105X	M.G.RESISTOR	1M	1/16W	
R416	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R417	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R418	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R419	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R420	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R421	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R422	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R423	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R424	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R425	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R426	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R427	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R428	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R430	NRSA63J-103X	M.G.RESISTOR	10k	1/16W	
R431	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R432	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R433	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R434	NRSA63J-471X	M.G.RESISTOR	470	1/16W	
R435	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R436	NRSA63J-471X	M.G.RESISTOR	470	1/16W	
R437	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R438	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R439	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R440	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R441	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R442	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R443	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R444	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R445	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R446	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	
R448	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	(E)
R449	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	(U)
R450	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R452	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	(U)
R453	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W	(E)
R456	NRSA63J-224X	M.G.RESISTOR	220k	1/16W	
R457	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R458	NRSA63J-224X	M.G.RESISTOR	220k	1/16W	
R460	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R462	NRSA63J-103X	M.G.RESISTOR	10k	1/16W	
R464	NRSA63J-101X	M.G.RESISTOR	100	1/16W	
R465	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R466	NRSA63J-101X	M.G.RESISTOR	100	1/16W	
R469	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R470	NRSA63J-103X	M.G.RESISTOR	10k	1/16W	
R471	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R472	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R473	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	
R474	NRSA63J-101X	M.G.RESISTOR	100	1/16W	
R475	NRSA63J-101X	M.G.RESISTOR	100	1/16W	
R476	NRSA63J-473X	M.G.RESISTOR	47k	1/16W	

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Symbol No.	Part No.	Part Name	Description
R477	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R478	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R479	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R480	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R481	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R482	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R483	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R484	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R485	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R486	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R487	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R488	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R489	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R490	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R491	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R492	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R493	NRSA63J-473X	M.G.RESISTOR	47k 1/16W (E)
R494	NRSA63J-473X	M.G.RESISTOR	47k 1/16W (U)
R496	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R499	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R500	NRSA63J-471X	M.G.RESISTOR	470 1/16W
R501	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R503	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R510	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R511	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R512	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R513	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R515	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R516	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R517	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R518	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R519	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R520	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R521	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R522	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R523	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R524	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R525	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R526	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R527	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R528	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R529	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R530	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R531	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R533	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R534	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R535	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R541	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R543	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R544	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R545	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R546	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R547	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R548	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R549	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R554	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R555	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R556	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R557	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R558	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R559	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R560	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R561	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R562	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R563	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R564	NRSA63J-561X	M.G.RESISTOR	560 1/16W
R565	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R608	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R609	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R615	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R620	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R622	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R948	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W

Symbol No.	Part No.	Part Name	Description
R949	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R950	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R951	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R952	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R953	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R954	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R955	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R956	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R957	NRSA63J-331X	M.G.RESISTOR	330 1/16W
R958	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R959	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R960	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R961	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R963	NRSA63J-471X	M.G.RESISTOR	470 1/16W
R965	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R966	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R967	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R971	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R972	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R973	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R974	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R975	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R976	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R977	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R981	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R982	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R983	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R984	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R985	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R986	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R987	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R988	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R989	NRSA63J-333X	M.G.RESISTOR	33k 1/16W
R990	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R991	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R992	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R993	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R994	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R995	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R996	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R997	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R998	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R999	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R1000	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R1001	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R1002	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R1003	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R1005	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1006	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1007	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1008	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1010	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R1015	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R1016	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R1017	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R1018	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R1019	NRSA63J-510X	M.G.RESISTOR	51 1/16W
R1020	NRSA63J-510X	M.G.RESISTOR	51 1/16W
R1021	NRSA63J-510X	M.G.RESISTOR	51 1/16W
R1022	NRSA63J-510X	M.G.RESISTOR	51 1/16W
R1023	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1024	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1025	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1026	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1027	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1028	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1029	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1030	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R1117	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R1134	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R1135	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R1136	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R1137	NRSA63J-104X	M.G.RESISTOR	100k 1/16W

Symbol No.	Part No.	Part Name	Description	
R1138	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R1139	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R2000	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2001	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2002	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2003	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2011	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2012	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2013	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2014	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2016	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2020	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2024	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2025	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2026	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2029	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2030	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2031	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2032	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
RA33	NRZ0015-473X	M.G.RESISTOR	47k	
RA34	NRZ0015-473X	M.G.RESISTOR	47k	
RA35	NRZ0015-473X	M.G.RESISTOR	47k	
RA39	NRZ0015-473X	M.G.RESISTOR	47k	
RA40	NRZ0015-473X	M.G.RESISTOR	47k	
RA41	NRZ0015-473X	M.G.RESISTOR	47k	
RA42	NRZ0015-473X	M.G.RESISTOR	47k	
RA43	NRZ0015-473X	M.G.RESISTOR	47k	
RA46	NRZ0015-473X	M.G.RESISTOR	47k	
RA47	NRZ0015-473X	M.G.RESISTOR	47k	
RA48	NRZ0015-473X	M.G.RESISTOR	47k	
RA49	NRZ0015-473X	M.G.RESISTOR	47k	
RA50	NRZ0015-473X	M.G.RESISTOR	47k	
RA51	NRZ0015-473X	M.G.RESISTOR	47k	
RA52	NRZ0015-473X	M.G.RESISTOR	47k	
RA53	NRZ0015-473X	M.G.RESISTOR	47k	
RA54	NRZ0015-473X	M.G.RESISTOR	47k	
RA55	NRZ0015-473X	M.G.RESISTOR	47k	
RA56	NRZ0015-473X	M.G.RESISTOR	47k	
RA57	NRZ0015-473X	M.G.RESISTOR	47k	
RA58	NRZ0015-473X	M.G.RESISTOR	47k	
RA59	NRZ0015-473X	M.G.RESISTOR	47k	
RA60	NRZ0015-473X	M.G.RESISTOR	47k	
C1	NCB11AK-106X	CER.CAPACITOR	10	10V
C200	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C201	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C259	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C262	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C263	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C264	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C265	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C266	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C267	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C268	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C269	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C270	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C271	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C272	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C273	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C274	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C275	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C276	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C277	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C278	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C279	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C281	NCB11CK-105X	CER.CAPACITOR	1	16V
C282	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C283	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C284	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C285	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C286	NDC31HJ-120X	CER.CAPACITOR	12p	50V

Symbol No.	Part No.	Part Name	Description	
C287	NCB31HK-682X	CER.CAPACITOR	6800p	50V
C288	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C289	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C290	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C291	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C292	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C293	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C294	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C296	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C297	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C298	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C299	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C300	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C301	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C303	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C304	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C492	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C493	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C494	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C495	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C496	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C497	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C498	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C499	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C500	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C501	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C502	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C503	NCB11AK-106X	CER.CAPACITOR	10	10V
C504	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C505	NCB11AK-106X	CER.CAPACITOR	10	10V
C506	NCB11AK-106X	CER.CAPACITOR	10	10V
C507	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C508	NCB11AK-106X	CER.CAPACITOR	10	10V
C509	NCB11AK-225X	CER.CAPACITOR	2.2	10V
C510	NCB31HK-682X	CER.CAPACITOR	6800p	50V
C511	NCB11CK-105X	CER.CAPACITOR	1	16V
C512	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C513	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C514	NCB11AK-106X	CER.CAPACITOR	10	10V
C515	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C516	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C517	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C518	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C519	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C520	NCB11CK-105X	CER.CAPACITOR	1	16V
C521	NCB11CK-105X	CER.CAPACITOR	1	16V
C522	NCB11CK-105X	CER.CAPACITOR	1	16V
C523	NCB11CK-105X	CER.CAPACITOR	1	16V
C524	NCB11CK-105X	CER.CAPACITOR	1	16V
C525	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C526	NCB11CK-105X	CER.CAPACITOR	1	16V
C527	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C528	NCB11CK-105X	CER.CAPACITOR	1	16V
C529	NCB11CK-105X	CER.CAPACITOR	1	16V
C530	NCB11CK-105X	CER.CAPACITOR	1	16V
C531	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C532	NDC31HJ-101X	CER.CAPACITOR	100p	50V
C533	NCB11AK-106X	CER.CAPACITOR	10	10V
C534	NCJ10JM-476X-A	CER.CAPACITOR	47	6.3V
C535	NDC31HJ-101X	CER.CAPACITOR	100p	50V
C536	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C537	NCB11AK-106X	CER.CAPACITOR	10	10V
C538	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C539	NCB11AK-225X	CER.CAPACITOR	2.2	10V
C540	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C541	NCB30JK-474X	CER.CAPACITOR	0.47	6.3V
C600	NBSH0JM-337X	TAN.CAPACITOR	330	6.3V
C601	NCB11EK-105X	CER.CAPACITOR	1	25V
C602	NBSH0JM-337X	TAN.CAPACITOR	330	6.3V
C603	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C801	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C987	NCB31CK-104X	CER.CAPACITOR	0.1	16V

2 0 **[MIF]**

Symbol No.	Part No.	Part Name	Description
C988	NCB31CK-104X	CER.CAPACITOR	0.1 16V
L37	NQLA3GK-101X	COIL	100uH
L38	NQLA3GK-101X	COIL	100uH
L39	NQL904J-680X	COIL	68uH
L40	NQL904J-220X	COIL	22uH
X3	NAX0723-001X	CRYSTAL	8.5MHz
X4	NAX0564-001X	CRYSTAL	32.768kHz
CN4	QGA1002F1-03X	CONNECTOR	3PIN
CN7	QGB0502L1-40X	CONNECTOR	40PIN
CN9	QGA1002F1-05X	CONNECTOR	5PIN
CN10	QGF0508F1-24X	CONNECTOR	24PIN
CN11	QGA1002F1-06X	CONNECTOR	6PIN
CN12	QGA1002F1-07X	CONNECTOR	7PIN
CN13	QGF0508F1-15X	CONNECTOR	15PIN
CN14	QGF0508F1-50X	CONNECTOR	50PIN
CN21	QGF0534F1-20X	CONNECTOR	20PIN (U)
	QGF0508F1-20X	CONNECTOR	20PIN (E)
CN22	QGA1002F1-12X	CONNECTOR	12PIN
CN23	QGA1002F1-08X	CONNECTOR	8PIN
CN24	QGF0508F1-50X	CONNECTOR	50PIN
CN34	QGF0508F1-10X	CONNECTOR	10PIN
CN48	QGF0508F1-10X	CONNECTOR	10PIN
CN49	QGB0805M5-E0	CONNECTOR	140PIN
CN51	NNZ0133-001X	CONNECTOR	
CN52	NNZ0133-001X	CONNECTOR	
CN90	QGA1002F1-02X	CONNECTOR	
BT1	QAB0020-001	LI BATTERY	
K13	NQR0269-004X	FERRITE BEADS	
K15	NQR0269-004X	FERRITE BEADS	
K16	NQR0269-004X	FERRITE BEADS	
K20	NQR0351-002X	FERRITE BEADS	
K21	NQR0265-003X	FERRITE BEADS	
K22	NQR0265-003X	FERRITE BEADS	
K23	NQR0265-001X	FERRITE BEADS	
K24	NQR0265-001X	FERRITE BEADS	
K25	NQR0265-001X	FERRITE BEADS	
K26	NQR0265-001X	FERRITE BEADS	
K27	NQR0265-001X	FERRITE BEADS	

6.6 MIF BOARD ASSEMBLY PARTS LIST 2 0

CK2801C0B1 (GY-HD101E) 2 0 ☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
IC58	PLSC1590	I.C.(M)	HD64F2368VTE34V
IC59	TC7W34FU-X	I.C.(M)	TOSHIBA
IC60	TC7W74FU-X	I.C.(M)	TOSHIBA
IC61	M95320-WMN6P-X	I.C.(M)	MITSUBISHI
IC62	MM1573AN-X	I.C.(M)	MITSUMI
IC63	RS5C314-X	I.C.(M)	RICOH
IC64	R3112N261A-X	I.C.(M)	RICOH
IC65	LC4064V75T100C1	I.C.(M)	LATTICE
IC66	LC4128V75T100C2	I.C.(M)	LATTICE
IC67	SN74AHC1G14DC-X	I.C.(M)	TEXAS
IC68	SN74AHC1G14DC-X	I.C.(M)	TEXAS
IC96	XC2C2567VQG100C	I.C.(M)	XILINX
IC97	S29AL016D70TFI1	I.C.(M)	SPANSION
IC98	TC7W34FU-X	I.C.(M)	TOSHIBA
IC99	CXM3004R	I.C.(M)	SONY
IC100	AK5357VT-X	I.C.(M)	ASAHI KASEI
IC101	AK4384VT-X	I.C.(M)	ASAHI KASEI
IC109	NJM78L12UA-X	I.C.(M)	JRC
Q1	DTC124EUA-X	TRANSISTOR	ROHM
Q2	DTC124EUA-X	TRANSISTOR	ROHM
Q11	DTA124EUA-X	TRANSISTOR	ROHM
Q12	DTC124EUA-X	TRANSISTOR	ROHM
Q13	DTA124EUA-X	TRANSISTOR	ROHM
Q14	SSM3K15FS-X	TRANSISTOR	TOSHIBA
Q16	DTC124EUA-X	TRANSISTOR	ROHM
Q17	DTC124EUA-X	TRANSISTOR	ROHM
Q20	DTC124EUA-X	TRANSISTOR	ROHM
Q21	2SC4626J/BC/-X	TRANSISTOR	MATSUSHITA
Q22	DTA124EUA-X	TRANSISTOR	ROHM
Q24	DTC124EUA-X	TRANSISTOR	ROHM
Q29	DTC124EUA-X	TRANSISTOR	ROHM
Q30	DTC124EUA-X	TRANSISTOR	ROHM
Q31	2SA1790J/BC/-X	TRANSISTOR	MATSUSHITA
Q32	DTC124EUA-X	TRANSISTOR	ROHM
Q33	2SC4626J/BC/-X	TRANSISTOR	MATSUSHITA
Q34	2SA1790J/BC/-X	TRANSISTOR	MATSUSHITA
Q35	2SC4626J/BC/-X	TRANSISTOR	MATSUSHITA
Q36	2SA1790J/BC/-X	TRANSISTOR	MATSUSHITA
Q37	DTC124EUA-X	TRANSISTOR	ROHM
Q500	DTC124EUA-X	TRANSISTOR	ROHM
Q913	DTA124EUA-X	TRANSISTOR	ROHM
Q914	DTA124EUA-X	TRANSISTOR	ROHM
D1	SML-020MVT-W	L.E.D.	ROHM
D18	HZM3.9NB2-X	ZENER DIODE	HITACHI
D19	MA741WK-X	DIODE	MATSUSHITA
D20	MA741WK-X	DIODE	MATSUSHITA
D36	SML-020MVT-W	L.E.D.	ROHM
D46	HZM3.0NB1-X	ZENER DIODE	HITACHI
D47	HZM3.9NB2-X	ZENER DIODE	HITACHI
R4	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R5	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R6	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R7	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R8	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R369	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R370	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R371	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R372	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R373	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R375	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R377	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R378	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R379	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R381	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R382	NRSA63J-683X	M.G.RESISTOR	68k 1/16W
R383	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R384	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R385	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R387	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W

Symbol No.	Part No.	Part Name	Description	
R388	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R389	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R390	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R392	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R393	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R395	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R396	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R397	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R399	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R400	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R401	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R402	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R403	NRSA63J-683X	M.G.RESISTOR	68k	1/16W
R404	NRSA63J-752X	M.G.RESISTOR	7.5k	1/16W
R405	NRSA63J-123X	M.G.RESISTOR	12k	1/16W
R406	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R408	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R409	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R411	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R413	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R414	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R415	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R416	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R417	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R418	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R419	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R420	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R421	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R422	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R423	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R424	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R425	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R426	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R427	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R428	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R430	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R431	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R432	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R433	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R434	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R435	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R436	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R437	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R438	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R439	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R440	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R441	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R442	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R443	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R444	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R445	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R446	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R449	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R450	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R453	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R456	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R457	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R458	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R460	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R462	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R464	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R465	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R466	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R469	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R470	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R471	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R472	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R473	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R474	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R475	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R476	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R477	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R478	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R479	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R480	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R481	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R482	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R483	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R484	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R485	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R486	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R487	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R488	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R489	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R490	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R491	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R492	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R493	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R496	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R499	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R500	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R501	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R503	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R510	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R511	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R512	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R513	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R515	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R516	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R517	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R518	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R519	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R520	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R521	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R522	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R523	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R524	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R525	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R526	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R527	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R528	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R529	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R530	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R531	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R533	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R534	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R535	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R541	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R543	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R544	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R545	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R546	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R547	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R548	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R549	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R554	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R555	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R556	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R557	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R558	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R559	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R560	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R561	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R562	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R563	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R564	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R565	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R608	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R609	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R615	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R620	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R622	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R948	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R949	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R950	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R951	NRSA63J-330X	M.G.RESISTOR	33	1/16W

20 [MIF]

Symbol No.	Part No.	Part Name	Description	
R952	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R953	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R954	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R955	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R956	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R957	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R958	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R959	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R960	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R961	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R963	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R965	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R966	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R967	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R971	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R972	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R973	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R974	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R975	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R976	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R977	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R981	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R982	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R983	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R984	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R985	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R986	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R987	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R988	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R989	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R990	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R991	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R992	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R993	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R994	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R995	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R996	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R997	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R998	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R999	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R1000	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R1001	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R1002	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R1003	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R1005	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1006	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1007	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1008	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1010	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1015	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1016	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1017	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1018	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1019	NRSA63J-510X	M.G.RESISTOR	51	1/16W
R1020	NRSA63J-510X	M.G.RESISTOR	51	1/16W
R1021	NRSA63J-510X	M.G.RESISTOR	51	1/16W
R1022	NRSA63J-510X	M.G.RESISTOR	51	1/16W
R1023	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1024	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1025	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1026	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1027	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1028	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1029	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1030	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1117	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1134	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R1135	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R1136	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R1137	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R1138	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R1139	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R2000	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W

Symbol No.	Part No.	Part Name	Description	
R2001	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2002	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2003	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2011	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2012	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2013	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2014	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2016	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2020	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2024	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2025	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2026	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R2029	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2030	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2031	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2032	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
RA33	NRZ0015-473X	M.G.RESISTOR	47k	
RA34	NRZ0015-473X	M.G.RESISTOR	47k	
RA35	NRZ0015-473X	M.G.RESISTOR	47k	
RA39	NRZ0015-473X	M.G.RESISTOR	47k	
RA40	NRZ0015-473X	M.G.RESISTOR	47k	
RA41	NRZ0015-473X	M.G.RESISTOR	47k	
RA42	NRZ0015-473X	M.G.RESISTOR	47k	
RA43	NRZ0015-473X	M.G.RESISTOR	47k	
RA46	NRZ0015-473X	M.G.RESISTOR	47k	
RA47	NRZ0015-473X	M.G.RESISTOR	47k	
RA48	NRZ0015-473X	M.G.RESISTOR	47k	
RA49	NRZ0015-473X	M.G.RESISTOR	47k	
RA50	NRZ0015-473X	M.G.RESISTOR	47k	
RA51	NRZ0015-473X	M.G.RESISTOR	47k	
RA52	NRZ0015-473X	M.G.RESISTOR	47k	
RA53	NRZ0015-473X	M.G.RESISTOR	47k	
RA54	NRZ0015-473X	M.G.RESISTOR	47k	
RA55	NRZ0015-473X	M.G.RESISTOR	47k	
RA56	NRZ0015-473X	M.G.RESISTOR	47k	
RA57	NRZ0015-473X	M.G.RESISTOR	47k	
RA58	NRZ0015-473X	M.G.RESISTOR	47k	
RA59	NRZ0015-473X	M.G.RESISTOR	47k	
RA60	NRZ0015-473X	M.G.RESISTOR	47k	
C1	NCB11AK-106X	CER.CAPACITOR	10	10V
C200	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C201	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C259	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C262	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C263	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C264	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C265	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C266	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C267	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C268	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C269	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C270	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C271	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C272	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C273	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C274	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C275	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C276	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C277	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C278	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C279	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C281	NCB11CK-105X	CER.CAPACITOR	1	16V
C282	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C283	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C284	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C285	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C286	NDC31HJ-120X	CER.CAPACITOR	12p	50V
C287	NCB31HK-682X	CER.CAPACITOR	6800p	50V
C288	NCB31CK-104X	CER.CAPACITOR	0.1	16V

Symbol No.	Part No.	Part Name	Description	
C289	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C290	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C291	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C292	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C293	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C294	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C296	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C297	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C298	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C299	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C300	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C301	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C303	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C304	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C492	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C493	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C494	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C495	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C496	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C497	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C498	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C499	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C500	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C501	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C502	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C503	NCB11AK-106X	CER.CAPACITOR	10	10V
C504	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C505	NCB11AK-106X	CER.CAPACITOR	10	10V
C506	NCB11AK-106X	CER.CAPACITOR	10	10V
C507	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C508	NCB11AK-106X	CER.CAPACITOR	10	10V
C509	NCB11AK-225X	CER.CAPACITOR	2.2	10V
C510	NCB31HK-682X	CER.CAPACITOR	6800p	50V
C511	NCB11CK-105X	CER.CAPACITOR	1	16V
C512	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C513	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C514	NCB11AK-106X	CER.CAPACITOR	10	10V
C515	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C516	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C517	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C518	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C519	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C520	NCB11CK-105X	CER.CAPACITOR	1	16V
C521	NCB11CK-105X	CER.CAPACITOR	1	16V
C522	NCB11CK-105X	CER.CAPACITOR	1	16V
C523	NCB11CK-105X	CER.CAPACITOR	1	16V
C524	NCB11CK-105X	CER.CAPACITOR	1	16V
C525	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C526	NCB11CK-105X	CER.CAPACITOR	1	16V
C527	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C528	NCB11CK-105X	CER.CAPACITOR	1	16V
C529	NCB11CK-105X	CER.CAPACITOR	1	16V
C530	NCB11CK-105X	CER.CAPACITOR	1	16V
C531	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C532	NDC31HJ-101X	CER.CAPACITOR	100p	50V
C533	NCB11AK-106X	CER.CAPACITOR	10	10V
C534	NCJ10JM-476X-A	CER.CAPACITOR	47	6.3V
C535	NDC31HJ-101X	CER.CAPACITOR	100p	50V
C536	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C537	NCB11AK-106X	CER.CAPACITOR	10	10V
C538	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C539	NCB11AK-225X	CER.CAPACITOR	2.2	10V
C540	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C541	NCB30JK-474X	CER.CAPACITOR	0.47	6.3V
C600	NBSH0JM-337X	TAN.CAPACITOR	330	6.3V
C601	NCB11EK-105X	CER.CAPACITOR	1	25V
C602	NBSH0JM-337X	TAN.CAPACITOR	330	6.3V
C603	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C801	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C987	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C988	NCB31CK-104X	CER.CAPACITOR	0.1	16V

Symbol No.	Part No.	Part Name	Description
L37	NQLA3GK-101X	COIL	100uH
L38	NQLA3GK-101X	COIL	100uH
L39	NQL904J-680X	COIL	68uH
L40	NQL904J-220X	COIL	22uH
X3	NAX0723-001X	CRYSTAL	8.5MHz
X4	NAX0564-001X	CRYSTAL	32.768kHz
CN4	QGA1002F1-03X	CONNECTOR	3PIN
CN7	QGB0502L1-40X	CONNECTOR	40PIN
CN9	QGA1002F1-05X	CONNECTOR	5PIN
CN10	QGF0508F1-24X	CONNECTOR	24PIN
CN11	QGA1002F1-06X	CONNECTOR	6PIN
CN12	QGA1002F1-07X	CONNECTOR	7PIN
CN13	QGF0508F1-15X	CONNECTOR	15PIN
CN14	QGF0508F1-50X	CONNECTOR	50PIN
CN21	QGF0508F1-20X	CONNECTOR	20PIN
CN22	QGA1002F1-12X	CONNECTOR	12PIN
CN23	QGA1002F1-08X	CONNECTOR	8PIN
CN24	QGF0508F1-50X	CONNECTOR	50PIN
CN34	QGF0508F1-10X	CONNECTOR	10PIN
CN48	QGF0508F1-10X	CONNECTOR	10PIN
CN49	QGB0805M5-E0	CONNECTOR	140PIN
CN51	NNZ0133-001X	CONNECTOR	
CN52	NNZ0133-001X	CONNECTOR	
CN90	QGA1002F1-02X	CONNECTOR	
BT1	QAB0020-001	LI BATTERY	
K13	NQR0269-004X	FERRITE BEADS	
K15	NQR0269-004X	FERRITE BEADS	
K16	NQR0269-004X	FERRITE BEADS	
K20	NQR0351-002X	FERRITE BEADS	
K21	NQR0265-003X	FERRITE BEADS	
K22	NQR0265-003X	FERRITE BEADS	
K23	NQR0265-001X	FERAITE BEADS	
K24	NQR0265-001X	FERAITE BEADS	
K25	NQR0265-001X	FERAITE BEADS	
K26	NQR0265-001X	FERAITE BEADS	
K27	NQR0265-001X	FERAITE BEADS	

6.7 PS BOARD ASSEMBLY PARTS LIST 2 1

CK280100A2 2 1 □□□□□□

Symbol No.	Part No.	Part Name	Description	
IC1	TA75S393F-W	I.C.(M)	TOSHIBA	
IC2	MM1573DN-X	I.C.(M)	MITSUMI	
IC3	TC74HC4538AFT-X	I.C.(M)	TOSHIBA	
IC4	TC7S00F-X	I.C.(M)	TOSHIBA	
IC5	LTC3728LXCUH-X	I.C.(M)	LINEAR	
IC6	BD9730KV-X	I.C.(M)	ROHM	
IC7	TK72100CSC-X	I.C.(M)	TOKO DENSHI	
IC8	TA75S01F-W	I.C.(M)	TOSHIBA	
Q1	FDS6575-X	TRANSISTOR	FAIR CHILD	
Q2	2SC4081/QRS/-X	TRANSISTOR	ROHM	
Q3	DTC144EUA-X	TRANSISTOR	ROHM	
Q4	2SA1576A/QRS/-X	TRANSISTOR	ROHM	
Q5	DTC144EUA-X	TRANSISTOR	ROHM	
Q6	2SC4081/QRS/-X	TRANSISTOR	ROHM	
Q7	2SA1576A/QRS/-X	TRANSISTOR	ROHM	
Q8	DTC144EUA-X	TRANSISTOR	ROHM	
Q10	DTC144EUA-X	TRANSISTOR	ROHM	
Q11	SP8K1-X	TRANSISTOR	ROHM	
Q12	SP8K1-X	TRANSISTOR	ROHM	
Q13	RTQ035N03-W	TRANSISTOR	MITSUBISHI	
Q14	RSQ035P03-W	TRANSISTOR	ROHM	
Q15	RSQ035P03-W	TRANSISTOR	ROHM	
Q16	RSQ035P03-W	TRANSISTOR	ROHM	
Q17	RSQ035P03-W	TRANSISTOR	ROHM	
Q18	2SC4081/QRS/-X	TRANSISTOR	ROHM	
Q19	2SB1189/PQR/-W	TRANSISTOR	ROHM	
Q20	2SC4081/QRS/-X	TRANSISTOR	ROHM	
Q21	2SC4081/QRS/-X	TRANSISTOR	ROHM	
Q22	2SC4081/QRS/-X	TRANSISTOR	ROHM	
Q23	SP8K4-X	TRANSISTOR	ROHM	
Q25	DTC144EUA-X	TRANSISTOR	ROHM	
Q26	2SA1576A/QRS/-X	TRANSISTOR	ROHM	
D1	RB051L-40-X	SB.DIODE	ROHM	
D2	RB051L-40-X	SB.DIODE	ROHM	
D3	HZU3CLL-X	ZENER DIODE	HITACHI	
D4	HZM18NB2-X	ZENER DIODE	HITACHI	
D5	MA8110/M/-X	ZENER DIODE	MATSUSHITA	
D6	1SS355-X	DIODE	ROHM	
D7	1SS357-X	DIODE	TOSHIBA	
D8	1SS357-X	DIODE	TOSHIBA	
D9	RB160M-30-X	SB DIODE	ROHM	
D10	MA736-X	DIODE	MATSUSHITA	
D11	RB160M-30-X	SB DIODE	ROHM	
D12	1SS306-W	DIODE	TOSHIBA	
D13	RB160M-30-X	SB DIODE	ROHM	
D14	RB160M-30-X	SB DIODE	ROHM	
D15	RB160M-30-X	SB DIODE	ROHM	
D16	RB160M-30-X	SB DIODE	ROHM	
D17	RB160M-30-X	SB DIODE	ROHM	
D18	RB160M-30-X	SB DIODE	ROHM	
D19	RB160M-30-X	SB DIODE	ROHM	
D20	1SS355-X	DIODE	ROHM	
D21	1SS355-X	DIODE	ROHM	
R1	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R2	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R3	NRSA63D-304X	M.G.RESISTOR	300k	1/16W
R4	NRSA63D-474X	M.G.RESISTOR	470k	1/16W
R5	NRSA63D-105X	M.G.RESISTOR	1M	1/16W
R6	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R7	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R8	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R9	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R10	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R11	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R12	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R13	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R14	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R16	NRSA63D-474X	M.G.RESISTOR	470k	1/16W
R17	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R18	NRSA63D-474X	M.G.RESISTOR	470k	1/16W
R19	NRSA63D-473X	M.G.RESISTOR	47k	1/16W
R20	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R21	NRSA63D-473X	M.G.RESISTOR	47k	1/16W
R22	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R23	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R24	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R25	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R26	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R27	NRSA63D-223X	M.G.RESISTOR	22k	1/16W
R28	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R29	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R30	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R31	NRSA63D-223X	M.G.RESISTOR	22k	1/16W
R32	NRSA63D-912X	M.G.RESISTOR	9.1k	1/16W
R33	NRSA63D-563X	M.G.RESISTOR	56k	1/16W
R34	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R35	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R37	NRZ0070-R033X	CHIP RESISTOR	R03k	
R38	NRZ0070-R033X	CHIP RESISTOR	R03k	
R39	NRZ0070-R022X	M.G.RESISTOR	R0.2k	
R40	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R41	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R42	NRSA63D-154X	M.G.RESISTOR	150k	1/16W
R43	NRSA63D-683X	M.G.RESISTOR	68k	1/16W
R44	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R45	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R46	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R47	NRSA63D-202X	M.G.RESISTOR	2k	1/16W
R48	NRSA63D-223X	M.G.RESISTOR	22k	1/16W
R49	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R50	NRSA63D-274X	M.G.RESISTOR	270k	1/16W
R51	NRSA63D-473X	M.G.RESISTOR	47k	1/16W
R52	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R53	NRSA63D-124X	M.G.RESISTOR	120k	1/16W
R54	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R55	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R56	NRSA63D-682X	M.G.RESISTOR	6.8k	1/16W
R57	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R58	NRSA63D-122X	M.G.RESISTOR	1.2k	1/16W
R59	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R60	NRSA63D-123X	M.G.RESISTOR	12k	1/16W
R61	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R62	NRSA63D-152X	M.G.RESISTOR	1.5k	1/16W
R63	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R64	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R65	NRSA63D-394X	M.G.RESISTOR	390k	1/16W
R66	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R67	NRSA63D-184X	M.G.RESISTOR	180k	1/16W
R68	NRSA63D-154X	M.G.RESISTOR	150k	1/16W
R69	NRSA63D-683X	M.G.RESISTOR	68k	1/16W
R70	NRSA63D-204X	M.G.RESISTOR	200k	1/16W
R71	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R72	NRSA63D-122X	M.G.RESISTOR	1.2k	1/16W
R73	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R74	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R75	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R76	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R78	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R79	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R80	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R81	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R82	NRSA63D-331X	M.G.RESISTOR	330	1/16W
R83	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R84	NRSA63D-473X	M.G.RESISTOR	47k	1/16W
R85	NRSA63D-154X	M.G.RESISTOR	150k	1/16W
R86	NRSA63D-393X	M.G.RESISTOR	39k	1/16W
R87	NRSA63D-563X	M.G.RESISTOR	56k	1/16W
R88	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R89	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R90	NRSA63D-202X	M.G.RESISTOR	2k	1/16W
R91	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R92	NRSA63J-123X	M.G.RESISTOR	12k	1/16W

Symbol No.	Part No.	Part Name	Description	
R93	NRSA63J-334X	M.G.RESISTOR	330k	1/16W
R94	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R95	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R96	NRSA63J-271X	M.G.RESISTOR	270	1/16W
R98	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R99	NRSA63D-683X	M.G.RESISTOR	68k	1/16W
R100	NRSA63D-204X	M.G.RESISTOR	200k	1/16W
R101	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R102	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R103	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R104	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R105	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R107	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R108	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R109	NRSA63J-334X	M.G.RESISTOR	330k	1/16W
R110	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R111	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
C1	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C2	NCB31AK-105X	CER.CAPACITOR	1	10V
C3	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C4	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C5	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C6	NCB31AK-105X	CER.CAPACITOR	1	10V
C8	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C9	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C10	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C11	NCB31AK-154X	CER.CAPACITOR	0.15	10V
C12	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C13	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C14	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C15	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C16	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C17	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C18	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C19	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C20	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C22	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C23	NCB31HK-222X	CER.CAPACITOR	2200p	50V
C24	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C25	NCB11AK-475X	CER.CAPACITOR	4.7	10V
C26	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C27	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C28	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C29	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C31	NBZ0010-396X	TAN.CAPACITOR	39	
C32	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C33	NBS40JM-686X	TAN.CAPACITOR	68	6.3V
C34	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C35	NBJG0JM-107X	TAN.CAPACITOR	100	6.3V
C36	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C37	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C38	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C39	NDC31HJ-391X	CER.CAPACITOR	390p	50V
C40	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C41	NDC31HJ-391X	CER.CAPACITOR	390p	50V
C42	NDC31HG-331X	CER.CAPACITOR	330p	50V
C43	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C44	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C45	NBE21CM-475X	TAN.CAPACITOR	4.7	16V
C46	NBE21AM-106X	TAN.CAPACITOR	10	10V
C47	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C48	NDC31HJ-680X	CER.CAPACITOR	68p	50V
C49	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C50	NDC31HJ-5R0X	CER.CAPACITOR	5p	50V
C51	NCB11EK-105X	CER.CAPACITOR	1	25V
C52	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C53	NCB11EK-105X	CER.CAPACITOR	1	25V
C54	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C55	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C56	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C57	NCB11EK-105X	CER.CAPACITOR	1	25V

Symbol No.	Part No.	Part Name	Description	
C58	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C59	NDC31HJ-101X	CER.CAPACITOR	100p	50V
C60	NCB31AK-105X	CER.CAPACITOR	1	10V
C61	NCB11EK-105X	CER.CAPACITOR	1	25V
C62	NCB41HK-105X	CER.CAPACITOR	1	50V
C63	NCB41HK-105X	CER.CAPACITOR	1	50V
C64	NCB11HK-224X	CER.CAPACITOR	0.22	50V
C65	NCB11HK-224X	CER.CAPACITOR	0.22	50V
C66	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C67	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C68	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C69	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C70	NCJ11EK-106X-R	CER.CAPACITOR	10	25V
C71	NCB11EK-105X	CER.CAPACITOR	1	25V
C72	NCB11AK-475X	CER.CAPACITOR	4.7	10V
C73	NCB11EK-105X	CER.CAPACITOR	1	25V
C74	NCB11AK-475X	CER.CAPACITOR	4.7	10V
C75	NRSA63J-0R0X	M.G.RESISTOR	0p	
C76	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C77	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C78	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C79	NCB31AK-105X	CER.CAPACITOR	1	10V
C80	NCB31AK-105X	CER.CAPACITOR	1	10V
C81	NCB31CK-104X	CER.CAPACITOR	0.1	16V
L1	NQLC2EM-1R0X	COIL	1uH	
L2	NQLC2EM-3R3X	COIL	3.3uH	
L3	NQL52EM-6R8X	COIL	6.8uH	
L4	NQL89EM-100X	COIL	10uH	
L5	NQL89EM-220X	COIL	22uH	
L6	NQL114K-220X	COIL	22uH	
L7	NQL114K-220X	COIL	22uH	
L8	NQL89EM-100X	COIL	10uH	
L9	NQL89EM-100X	COIL	10uH	
L11	NQL114K-220X	COIL	22uH	
⚠TH1	NAD0039-002X	THERMISTOR		
⚠TH2	NAD0039-001X	THERMISTOR		
⚠F1	NMFZ020-3R15X-S	FUSE	3.15A	
CN1	QGA1201C2-03X	CONNECTOR	3PIN	
CN29	QGA1201F2-11X	CONNECTOR	11PIN	
CN30	QGF0534F1-20X	CONNECTOR	20PIN	
CN53	QGA1201C2-04X	CONNECTOR	4PIN	
CN75	QGA1002C1-07X	CONNECTOR	7PIN	
T1	NQR0580-001X	D/D CON TRANS		
T2	NQR0581-001X	D/D CON TRANS		
K1	NQR0351-001X	FERRITE BEADS		
K2	NQR0351-001X	FERRITE BEADS		
K3	NQR0448-001X	FERRITE BEADS		
K4	NQR0448-001X	FERRITE BEADS		
K5	NQR0448-001X	FERRITE BEADS		
K6	NQR0448-001X	FERRITE BEADS		
K7	NQR0448-001X	FERRITE BEADS		
K8	NQR0448-001X	FERRITE BEADS		
K9	NQR0448-001X	FERRITE BEADS		
K10	NQR0448-001X	FERRITE BEADS		
K11	NQR0448-001X	FERRITE BEADS		
K12	NQR0448-001X	FERRITE BEADS		
K13	NQR0448-001X	FERRITE BEADS		
K14	NQR0448-001X	FERRITE BEADS		
K15	NQR0265-003X	FERRITE BEADS		
K16	NQR0448-001X	FERRITE BEADS		
K17	NQR0265-003X	FERRITE BEADS		
VA1	NAF0008-171X	VARISTOR		

6.8 AUDIO BOARD ASSEMBLY PARTS LIST 3 0

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Symbol No.	Part No.	Part Name	Description
IC201	BA3314F-X	I.C.(M)	ROHM
IC202	BA3314F-X	I.C.(M)	ROHM
IC203	TC4053BFT-X	I.C.(M)	TOSHIBA
IC204	NJM2068V-X	I.C.(M)	JRC
IC205	TC4053BFT-X	I.C.(M)	TOSHIBA
IC206	NJM2068V-X	I.C.(M)	JRC
IC207	NJM2068V-X	I.C.(M)	JRC
IC208	NJM2068V-X	I.C.(M)	JRC
IC209	BA6138F-X	I.C.(M)	ROHM
IC210	TC4W53FU-X	I.C.(M)	TOSHIBA
IC211	NJM2777V-X	I.C.(M)	JRC
IC212	NJM78L05UA-X	I.C.(M)	JRC
Q201	DTC144EUA-X	TRANSISTOR	ROHM
Q202	DTC144EUA-X	TRANSISTOR	ROHM
Q203	DTC144EUA-X	TRANSISTOR	ROHM
Q204	DTC144EUA-X	TRANSISTOR	ROHM
Q205	2SC3326/AB/-X	TRANSISTOR	TOSHIBA
Q206	2SC3326/AB/-X	TRANSISTOR	TOSHIBA
Q207	2SC3326/AB/-X	TRANSISTOR	TOSHIBA
Q208	2SC3326/AB/-X	TRANSISTOR	TOSHIBA
Q209	DTC144EUA-X	TRANSISTOR	ROHM
Q210	DTC144EUA-X	TRANSISTOR	ROHM
Q211	2SC3326/AB/-X	TRANSISTOR	TOSHIBA
Q212	2SC3326/AB/-X	TRANSISTOR	TOSHIBA
Q213	DTC144EUA-X	TRANSISTOR	ROHM
Q214	DTC144EUA-X	TRANSISTOR	ROHM
Q215	2SA1790J/BC/-X	TRANSISTOR	MATSUSHITA
Q216	DTA114EUA-X	TRANSISTOR	ROHM
Q217	2SC3326/AB/-X	TRANSISTOR	TOSHIBA
Q218	2SC3326/AB/-X	TRANSISTOR	TOSHIBA
Q219	DTA114EUA-X	TRANSISTOR	ROHM
D205	MA143A-X	DIODE	MATSUSHITA
D206	MA142WK-X	DIODE	MATSUSHITA
D209	MA142WK-X	DIODE	MATSUSHITA
R201	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R202	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R203	NRSA63J-392X	M.G.RESISTOR	3.9k 1/16W
R204	NRSA63J-392X	M.G.RESISTOR	3.9k 1/16W
R205	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R206	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R207	NRSA63J-562X	M.G.RESISTOR	5.6k 1/16W
R208	NRSA63J-562X	M.G.RESISTOR	5.6k 1/16W
R211	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R212	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R213	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R214	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R215	NRSA63J-105X	M.G.RESISTOR	1M 1/16W
R216	NRSA63J-105X	M.G.RESISTOR	1M 1/16W
R217	NRSA63J-153X	M.G.RESISTOR	15k 1/16W
R218	NRSA63J-153X	M.G.RESISTOR	15k 1/16W
R219	NRSA63J-152X	M.G.RESISTOR	1.5k 1/16W
R220	NRSA63J-152X	M.G.RESISTOR	1.5k 1/16W
R221	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R222	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R223	NRSA63J-224X	M.G.RESISTOR	220k 1/16W
R224	NRSA63J-224X	M.G.RESISTOR	220k 1/16W
R225	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R226	NRSA63J-113X	M.G.RESISTOR	11k 1/16W
R227	NRSA63J-113X	M.G.RESISTOR	11k 1/16W
R228	NRSA63J-913X	M.G.RESISTOR	91k 1/16W
R229	NRSA63J-913X	M.G.RESISTOR	91k 1/16W
R230	NRSA63J-912X	M.G.RESISTOR	9.1k 1/16W
R231	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R232	NRSA63J-510X	M.G.RESISTOR	51 1/16W
R233	NRSA63J-510X	M.G.RESISTOR	51 1/16W
R234	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R235	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R236	NRSA63J-224X	M.G.RESISTOR	220k 1/16W
R237	NRSA63J-224X	M.G.RESISTOR	220k 1/16W

Symbol No.	Part No.	Part Name	Description
R238	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R242	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R243	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R244	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R245	NRSA63J-182X	M.G.RESISTOR	1.8k 1/16W
R246	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R247	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R248	NRSA63J-182X	M.G.RESISTOR	1.8k 1/16W
R249	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R250	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R251	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R252	NRSA63J-822X	M.G.RESISTOR	8.2k 1/16W
R253	NRSA63J-822X	M.G.RESISTOR	8.2k 1/16W
R254	NRSA63J-123X	M.G.RESISTOR	12k 1/16W
R255	NRSA63J-123X	M.G.RESISTOR	12k 1/16W
R256	NRSA63J-123X	M.G.RESISTOR	12k 1/16W
R257	NRSA63J-123X	M.G.RESISTOR	12k 1/16W
R258	NRSA63J-152X	M.G.RESISTOR	1.5k 1/16W
R259	NRSA63J-152X	M.G.RESISTOR	1.5k 1/16W
R260	NRSA63J-242X	M.G.RESISTOR	2.4k 1/16W
R261	NRSA63J-242X	M.G.RESISTOR	2.4k 1/16W
R262	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R263	NRSA63J-272X	M.G.RESISTOR	2.7k 1/16W
R264	NRSA63J-272X	M.G.RESISTOR	2.7k 1/16W
R265	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R266	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R267	NRSA63J-562X	M.G.RESISTOR	5.6k 1/16W
R268	NRSA63J-562X	M.G.RESISTOR	5.6k 1/16W
R269	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R270	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R271	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R272	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R273	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R274	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R275	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R276	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R277	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R278	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R279	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R280	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R281	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R282	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R283	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R284	NRSA63J-154X	M.G.RESISTOR	150k 1/16W
R285	NRSA63J-154X	M.G.RESISTOR	150k 1/16W
R286	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R287	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R288	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R289	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R290	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R291	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R292	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R293	NRSA63J-152X	M.G.RESISTOR	1.5k 1/16W
R294	NRSA63J-152X	M.G.RESISTOR	1.5k 1/16W
R295	NRSA63J-153X	M.G.RESISTOR	15k 1/16W
R296	NRSA63J-332X	M.G.RESISTOR	3.3k 1/16W
R297	NRSA63J-332X	M.G.RESISTOR	3.3k 1/16W
R298	NRSA63J-332X	M.G.RESISTOR	3.3k 1/16W
R299	NRSA63J-153X	M.G.RESISTOR	15k 1/16W
R300	NRSA63J-332X	M.G.RESISTOR	3.3k 1/16W
R301	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R302	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R303	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R304	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R305	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R306	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R307	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R308	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R309	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R310	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R312	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R313	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R314	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W

Symbol No.	Part No.	Part Name	Description	
R315	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R322	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R323	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R324	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R326	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R327	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R328	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R329	NRSA63J-563X	M.G.RESISTOR	56k	1/16W
R330	NRSA63J-563X	M.G.RESISTOR	56k	1/16W
R331	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R333	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R334	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R335	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R336	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R337	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R338	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
C203	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C204	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C205	NCB41CM-106X	CER.CAPACITOR	10	16V
C206	NCB41CM-106X	CER.CAPACITOR	10	16V
C207	NCB41CM-106X	CER.CAPACITOR	10	16V
C208	NCB41CM-106X	CER.CAPACITOR	10	16V
C209	NCB11CK-105X	CER.CAPACITOR	1	16V
C210	NCB11CK-105X	CER.CAPACITOR	1	16V
C211	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C212	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C213	NEHM1CM-106X	E.CAPACITOR	10	16V
C214	NEHM1CM-106X	E.CAPACITOR	10	16V
C216	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C217	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C218	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C219	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C220	NCB11CK-224X	CER.CAPACITOR	0.22	16V
C221	NCB11CK-224X	CER.CAPACITOR	0.22	16V
C222	NEHM0JM-476X	E.CAPACITOR	47	6.3V
C223	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C224	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C225	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C226	NEHM1HM-474X	E.CAPACITOR	0.47	50V
C227	NEHM1HM-474X	E.CAPACITOR	0.47	50V
C228	NEHM1CM-106X	E.CAPACITOR	10	16V
C229	NEHM1CM-106X	E.CAPACITOR	10	16V
C230	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C231	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C232	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C233	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C234	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C235	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C236	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C237	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C238	NCB31HK-222X	CER.CAPACITOR	2200p	50V
C239	NCB31HK-222X	CER.CAPACITOR	2200p	50V
C240	NCB31HK-222X	CER.CAPACITOR	2200p	50V
C241	NCB31HK-222X	CER.CAPACITOR	2200p	50V
C242	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C243	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C244	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C245	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C246	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C247	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C248	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C249	NCB31HK-222X	CER.CAPACITOR	2200p	50V
C250	NCB31HK-222X	CER.CAPACITOR	2200p	50V
C251	NDC31HJ-101X	CER.CAPACITOR	100p	50V
C252	NDC31HJ-101X	CER.CAPACITOR	100p	50V
C253	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C254	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C255	NEHM1HM-474X	E.CAPACITOR	0.47	50V
C256	NEHM1HM-474X	E.CAPACITOR	0.47	50V
C257	NEHM1CM-106X	E.CAPACITOR	10	16V
C258	NEHM1CM-106X	E.CAPACITOR	10	16V

Symbol No.	Part No.	Part Name	Description	
C259	NEHM1CM-106X	E.CAPACITOR	10	16V
C260	NEHM1CM-106X	E.CAPACITOR	10	16V
C261	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C262	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C263	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C264	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C265	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C266	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C269	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C270	NCB11CK-105X	CER.CAPACITOR	1	16V
C271	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C272	NCB11CK-105X	CER.CAPACITOR	1	16V
C273	NCB11CK-105X	CER.CAPACITOR	1	16V
C274	NCB11CK-105X	CER.CAPACITOR	1	16V
C275	NCB11CK-105X	CER.CAPACITOR	1	16V
C276	NCB11CK-105X	CER.CAPACITOR	1	16V
C277	NCB11CK-105X	CER.CAPACITOR	1	16V
C278	NEHM0JM-226X	E.CAPACITOR	22	6.3V
C279	NCB11CK-105X	CER.CAPACITOR	1	16V
C280	NEHM1CM-106X	E.CAPACITOR	10	16V
C281	NEHM1CM-106X	E.CAPACITOR	10	16V
C282	NEHM1CM-476X	E.CAPACITOR	47	16V
C283	NEHM1CM-476X	E.CAPACITOR	47	16V
C284	NEHM1CM-106X	E.CAPACITOR	10	16V
C286	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C287	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C288	NEHM1CM-226X	E.CAPACITOR	22	16V
C289	NEHM1CM-226X	E.CAPACITOR	22	16V
C290	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C291	NCB41CM-106X	CER.CAPACITOR	10	16V
C292	NEHM1CM-106X	E.CAPACITOR	10	16V
C293	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C294	NCB20JK-475X	CER.CAPACITOR	4.7	6.3V
C295	NCB20JK-475X	CER.CAPACITOR	4.7	6.3V
L201	NQL904J-100X	COIL	10uH	
L202	NQL904J-100X	COIL	10uH	
L203	NQL904J-100X	COIL	10uH	
S201	NSW0180-001X	DETECT SWITCH	LCD ON/OFF	
S202	NSW0070-001X	SLIDE SWITCH	A.SELECT CH1	
S203	NSW0070-001X	SLIDE SWITCH	A.SELECT CH2	
S204	NSW0070-001X	SLIDE SWITCH	DISPLAY	
S205	NSW0070-002X	SLIDE SWITCH	GENE.	
S206	NSW0010-001X	SWITCH	LCD BRIGHT -	
S207	NSW0010-001X	SWITCH	LCD BRIGHT +	
S208	NSW0010-001X	SWITCH	CAM/VTR	
CN14	QGF0508F1-50X	CONNECTOR	50PIN	
CN24	QGF0508F1-50X	CONNECTOR	50PIN	
CN43	QGA1002F1-09X	CONNECTOR	9PIN	
CN44	QGF0534F1-18X	CONNECTOR	18PIN	
CN45	QGF0534F1-18X	CONNECTOR	18PIN	
CN62	QGF0305F1-33X	CONNECTOR	3PIN	
K201	NQR0413-002X	FERRITE CORE		

6.9 LINSEL BOARD ASSEMBLY PARTS LIST 3 1

CK279400A2 3 1 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description	
IC1	TC4053BFT-X	I.C.(M)	TOSHIBA	
IC2	TC4053BFT-X	I.C.(M)	TOSHIBA	
IC3	NJM2068V-X	I.C.(M)	JRC	
IC4	NJM2068V-X	I.C.(M)	JRC	
IC5	NJM2068V-X	I.C.(M)	JRC	
IC6	TC4052BFT/N/-X	I.C.(M)	TOSHIBA	
IC7	TC4052BFT/N/-X	I.C.(M)	TOSHIBA	
IC8	NJM2068V-X	I.C.(M)	JRC	
IC9	TC4052BFT/N/-X	I.C.(M)	TOSHIBA	
IC10	TC4052BFT/N/-X	I.C.(M)	TOSHIBA	
Q1	DTC144EUA-X	TRANSISTOR	ROHM	
Q2	DTC144EUA-X	TRANSISTOR	ROHM	
Q3	DTC144EUA-X	TRANSISTOR	ROHM	
Q4	DTC144EUA-X	TRANSISTOR	ROHM	
Q5	DTC144EUA-X	TRANSISTOR	ROHM	
Q6	DTC144EUA-X	TRANSISTOR	ROHM	
Q7	DTC144EUA-X	TRANSISTOR	ROHM	
Q8	DTC144EUA-X	TRANSISTOR	ROHM	
Q9	2SK1062-X	FET	TOSHIBA	
Q10	2SK1062-X	FET	TOSHIBA	
Q11	DTC124EUA-X	TRANSISTOR	ROHM	
Q12	DTC124EUA-X	TRANSISTOR	ROHM	
Q13	DTC124EUA-X	TRANSISTOR	ROHM	
Q14	DTC124EUA-X	TRANSISTOR	ROHM	
Q15	DTC124EUA-X	TRANSISTOR	ROHM	
Q16	2SC3326/AB/-X	TRANSISTOR	TOSHIBA	
Q17	2SB1463J/S/-X	TRANSISTOR	MATSUSHITA	
Q18	2SB1463J/S/-X	TRANSISTOR	MATSUSHITA	
Q19	2SD2240J/R/-X	TRANSISTOR	MATSUSHITA	
Q20	DTA114EUA-X	TRANSISTOR	ROHM	
D1	MA143A-X	DIODE	MATSUSHITA	
D2	MA143A-X	DIODE	MATSUSHITA	
D3	MA143A-X	DIODE	MATSUSHITA	
D4	MA143A-X	DIODE	MATSUSHITA	
R1	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R2	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R4	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R5	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R6	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R7	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R8	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R9	NRSA63D-113X	M.G.RESISTOR	11k	1/16W
R10	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R11	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R12	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R13	NRSA63D-113X	M.G.RESISTOR	11k	1/16W
R14	NRSA63D-113X	M.G.RESISTOR	11k	1/16W
R15	NRSA63D-113X	M.G.RESISTOR	11k	1/16W
R16	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R17	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R18	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R19	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R20	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R21	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R22	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R23	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R24	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R25	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R26	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R27	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R28	NRSA63D-104X	M.G.RESISTOR	100k	1/16W
R29	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R30	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R31	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R32	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R33	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R34	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R35	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R36	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R37	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R38	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R39	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R40	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R41	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R42	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R43	NRSA63D-682X	M.G.RESISTOR	6.8k	1/16W
R44	NRSA63D-682X	M.G.RESISTOR	6.8k	1/16W
R45	NRSA63D-682X	M.G.RESISTOR	6.8k	1/16W
R46	NRSA63D-682X	M.G.RESISTOR	6.8k	1/16W
R47	NRSA63D-243X	M.G.RESISTOR	24k	1/16W
R48	NRSA63D-243X	M.G.RESISTOR	24k	1/16W
R49	NRSA63D-243X	M.G.RESISTOR	24k	1/16W
R50	NRSA63D-243X	M.G.RESISTOR	24k	1/16W
R51	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R52	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R53	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R54	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R55	NRSA63D-361X	M.G.RESISTOR	360	1/16W
R56	NRSA63D-361X	M.G.RESISTOR	360	1/16W
R57	NRSA63D-361X	M.G.RESISTOR	360	1/16W
R58	NRSA63D-361X	M.G.RESISTOR	360	1/16W
R59	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R60	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R61	NRSA63D-222X	M.G.RESISTOR	2.2k	1/16W
R62	NRSA63D-222X	M.G.RESISTOR	2.2k	1/16W
R63	NRSA63D-222X	M.G.RESISTOR	2.2k	1/16W
R64	NRSA63D-222X	M.G.RESISTOR	2.2k	1/16W
R65	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R66	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R67	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R68	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R69	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R70	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R71	NRSA63J-432X	M.G.RESISTOR	4.3k	1/16W
R72	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R73	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R74	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R75	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R76	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R77	NRSA63J-912X	M.G.RESISTOR	9.1k	1/16W
R78	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R79	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R80	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R81	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R82	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R83	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R84	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R85	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R86	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
C1	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C2	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C3	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C5	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C6	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C7	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C8	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C9	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C10	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C12	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C13	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C14	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C15	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C16	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C17	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C18	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C19	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C20	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C21	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C22	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C23	NCB31CK-104X	CER.CAPACITOR	0.1	16V

Symbol No.	Part No.	Part Name	Description
C24	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C25	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C26	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C27	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C28	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C29	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C30	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C31	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C32	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C33	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C34	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C35	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C36	NFVC1CJ-104X	FILM CAPACITOR	0.1 16V
C37	NFVC1CJ-104X	FILM CAPACITOR	0.1 16V
C38	NFVC1CJ-104X	FILM CAPACITOR	0.1 16V
C39	NFVC1CJ-104X	FILM CAPACITOR	0.1 16V
C40	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C41	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C42	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C43	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C44	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C45	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C46	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C47	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C48	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C49	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C50	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C51	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C52	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C53	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C54	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C55	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C56	NCB41CM-106X	CER.CAPACITOR	10 16V
C57	NCB41CM-106X	CER.CAPACITOR	10 16V
C58	NCB41CM-106X	CER.CAPACITOR	10 16V
C59	NCB41CM-106X	CER.CAPACITOR	10 16V
C60	NCB11HK-223X	CER.CAPACITOR	0.022 50V
C61	NCB11HK-223X	CER.CAPACITOR	0.022 50V
C62	NCB11HK-223X	CER.CAPACITOR	0.022 50V
C63	NCB31HK-222X	CER.CAPACITOR	2200p 50V
C64	NCB31HK-222X	CER.CAPACITOR	2200p 50V
C65	NCB41CM-106X	CER.CAPACITOR	10 16V
C66	NCB41CM-106X	CER.CAPACITOR	10 16V
C67	NELA1JM-475X	E.CAPACITOR	4.7 63V
L1	NQL904J-100X	COIL	10uH
L2	NQL904J-100X	COIL	10uH
S1	NSW0070-002X	SLIDE SWITCH	AUDIO INPUT 1
S2	NSW0070-002X	SLIDE SWITCH	AUDIO INPUT 2
S3	NSW0070-001X	SLIDE SWITCH	CH2 INPUT
CN13	QGF0508F1-15X	CONNECTOR	15PIN
CN41	QGF0534F1-13X	CONNECTOR	13PIN
CN42	QGF0508F1-06X	CONNECTOR	6PIN
CN43	QGA1002C1-09X	CONNECTOR	9PIN

6.10 SD BOARD ASSEMBLY PARTS LIST 3 2
CK279400A3

3 2 ☐ ☐ ☐ ☐ ☐ ☐

Symbol No.	Part No.	Part Name	Description
Q1	DTA124EUA-X	TRANSISTOR	ROHM
Q2	DTA124EUA-X	TRANSISTOR	ROHM
R1	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R2	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R3	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R4	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R5	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R6	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R7	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R8	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R9	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R10	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R11	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R12	NRSA63J-220X	M.G.RESISTOR	22 1/16W
C1	NCF31EZ-104X	CER.CAPACITOR	0.1 25V
C9	NBE21AM-106X	TAN.CAPACITOR	10 10V
J10	NNZ0135-001X	SD CARD CONNECTOR	
CN18	QGF0508F1-10X	CONNECTOR	10PIN
K1	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W

6.11 PRMDA BOARD ASSEMBLY PARTS LIST 3 3
CK279400A4

3 3 ☐ ☐ ☐ ☐ ☐ ☐

Symbol No.	Part No.	Part Name	Description
IC1	MM1572FN-X	I.C.(M)	MITSUMI
IC2	NJU7222U30-X	I.C.(M)	JRC
IC3	JCY0132	I.C.(M)	JVC
IC4	TC7SH00FU-X	I.C.(M)	TOSHIBA
IC6	BA6865KV	I.C.(M)	ROHM
Q4	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q41	2SB1302/ST/-X	TRANSISTOR	SANYO
Q42	2SB1302/ST/-X	TRANSISTOR	SANYO
Q43	2SB1302/ST/-X	TRANSISTOR	SANYO
Q101	2SC3735/4-5/A-X	TRANSISTOR	NEC
Q103	2SC3735/4-5/A-X	TRANSISTOR	NEC
Q104	2SC3735/4-5/A-X	TRANSISTOR	NEC
QA41	BA6254FS-X	TRANSIST.ARRAY	
D41	DAP222-X	DIODE	ROHM
R1	NRSA63J-393X	M.G.RESISTOR	39k 1/16W
R2	NRSA63J-203X	M.G.RESISTOR	20k 1/16W
R3	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R4	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R5	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R6	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R7	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R11	NRSA63J-105X	M.G.RESISTOR	1M 1/16W

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Symbol No.	Part No.	Part Name	Description	
R12	NRSA63J-124X	M.G.RESISTOR	120k	1/16W
R13	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R14	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R15	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R16	NRSA63J-511X	M.G.RESISTOR	510	1/16W
R17	NRSA63J-511X	M.G.RESISTOR	510	1/16W
R18	NRSA63J-511X	M.G.RESISTOR	510	1/16W
R19	NRSA63J-511X	M.G.RESISTOR	510	1/16W
R20	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R31	NRSA63J-474X	M.G.RESISTOR	470k	1/16W
R32	NRSA63J-202X	M.G.RESISTOR	2k	1/16W
R33	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R34	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R37	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R38	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R39	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R42	NRS12BK-R68W	M.G.RESISTOR	0.68	1/2W
R43	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R44	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R45	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R46	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R47	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R48	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R50	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R51	NRSA63J-1R0X	M.G.RESISTOR	1	1/16W
R52	NRSA63J-1R0X	M.G.RESISTOR	1	1/16W
R53	NRSA63J-1R0X	M.G.RESISTOR	1	1/16W
R54	NRSA63J-1R0X	M.G.RESISTOR	1	1/16W
R62	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R101	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R102	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R103	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R104	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R105	NRSA63D-122X	M.G.RESISTOR	1.2k	1/16W
R106	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R107	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R108	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R113	NRSA63D-221X	M.G.RESISTOR	220	1/16W
R114	NRSA63D-750X	M.G.RESISTOR	75	1/16W
R115	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R118	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R125	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R126	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R127	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R128	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R129	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R130	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R131	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R132	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R133	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R141	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R142	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R143	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R144	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R145	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R146	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R147	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R151	NRSA63J-241X	M.G.RESISTOR	240	1/16W
R152	NRSA63J-241X	M.G.RESISTOR	240	1/16W
R153	NRSA63J-241X	M.G.RESISTOR	240	1/16W
R154	NRSA63J-241X	M.G.RESISTOR	240	1/16W
R161	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R162	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R173	NRSA63D-560X	M.G.RESISTOR	56	1/16W
R174	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R203	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R204	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
VR1	NVQ0006-B14X	VAL.RESISTOR	B10k	MODE SENS
C1	NCB31CK-104X	CER.CAPACITOR	0.1	16V

Symbol No.	Part No.	Part Name	Description	
C2	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C3	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C4	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C14	NBE21AM-106X	TAN.CAPACITOR	10	10V
C15	NBE41CM-106X	TAN.CAPACITOR	10	16V
C16	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C17	NCB31HK-152X	CER.CAPACITOR	1500p	50V
C18	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C19	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C20	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C21	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C22	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C23	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C24	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C31	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C32	NBE41CM-226X	TAN.CAPACITOR	22	16V
C33	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C34	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C35	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C36	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C37	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C39	NCB11CK-105X	CER.CAPACITOR	1	16V
C40	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C41	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C42	NCB31AK-224X	CER.CAPACITOR	0.22	10V
C43	NCB31AK-224X	CER.CAPACITOR	0.22	10V
C44	NCB31AK-224X	CER.CAPACITOR	0.22	10V
C45	NBE41EM-475X	TAN.CAPACITOR	4.7	25V
C46	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C47	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C48	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C49	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C50	NBE41CM-226X	TAN.CAPACITOR	22	16V
C51	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C52	NCB11CK-105X	CER.CAPACITOR	1	16V
C53	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C54	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C101	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C102	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C103	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C108	NDC31HJ-560X	CER.CAPACITOR	56p	50V
C109	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C110	NBE41CM-106X	TAN.CAPACITOR	10	16V
C111	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C112	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C131	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C132	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C133	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C134	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C135	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C136	NBE41CM-106X	TAN.CAPACITOR	10	16V
C137	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C138	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C140	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C141	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C142	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C143	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C145	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C146	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C147	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C148	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C149	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C161	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C162	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C163	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C164	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C165	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C166	NBE41CM-106X	TAN.CAPACITOR	10	16V
C167	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C168	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C171	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C172	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C174	NCB31CK-104X	CER.CAPACITOR	0.1	16V

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Symbol No.	Part No.	Part Name	Description
C175	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C176	NBE21AM-106X	TAN.CAPACITOR	10 10V
C177	NBE21AM-106X	TAN.CAPACITOR	10 10V
C178	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C179	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C201	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C202	NBE41CM-106X	TAN.CAPACITOR	10 16V
C203	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C204	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C205	NBE41CM-106X	TAN.CAPACITOR	10 16V
C206	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C207	NBE21AM-106X	TAN.CAPACITOR	10 10V
C208	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C209	NBE21AM-106X	TAN.CAPACITOR	10 10V
C210	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C211	NBE41CM-106X	TAN.CAPACITOR	10 16V
C212	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C213	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C214	NBE41CM-106X	TAN.CAPACITOR	10 16V
C215	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C216	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C217	NBE21AM-106X	TAN.CAPACITOR	10 10V
C218	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C219	NBE21AM-106X	TAN.CAPACITOR	10 10V
C220	NCB31CK-104X	CER.CAPACITOR	0.1 16V
L50	NQLA3GK-100X	COIL	10uH
L101	NQL904J-R47X	COIL	0.47uH
L102	NQL904J-R47X	COIL	0.47uH
L103	NQLA3GK-100X	COIL	10uH
L131	NQLA3GK-100X	COIL	10uH
L161	NQLA3GK-100X	COIL	10uH
L171	NQLA3GK-100X	COIL	10uH
L172	NQLA3GK-100X	COIL	10uH
L201	NQLA3GK-100X	COIL	10uH
L202	NQLA3GK-100X	COIL	10uH
LC201	NQR0436-001X	LC FILTER	
TH1	NAD0002-223X	THERMISTOR	22k
S1	NSW0255-001X	LEVER SWITCH	HOUSING SWITCH
CN1	NNZ0071-001X	CONNECTOR	
CN2	NNZ0071-001X	CONNECTOR	
CN3	NNZ0071-001X	CONNECTOR	
CN16	QGF0508F1-50X	CONNECTOR	50PIN
CN17	QGF0508F1-16X	CONNECTOR	16PIN
CN70	QGF0508F1-18X	CONNECTOR	18PIN
CN71	QGF0503F4-13X	CONNECTOR	13PIN
CN72	QGA1201F2-02X	CONNECTOR	2PIN
CN73	QGF0503F3-08X	CONNECTOR	8PIN
CN74	QGF0508F2-15X	CONNECTOR	15PIN
CN75	QGA1002F1-07X	CONNECTOR	7PIN
CN77	QGA1201F2-02X	CONNECTOR	2PIN
CN102	NNZ0133-001X	CONNECTOR	
CN104	NNZ0133-001X	CONNECTOR	
TP201	NNZ0009-001X	TEST POINT	PRA+3V
TP202	NNZ0009-001X	TEST POINT	PRD+3V
TP203	NNZ0009-001X	TEST POINT	+2.5V
K50	NQR0200-005X	COIL	
K171	NQR0265-001X	FERAITE BEADS	
K201	NQR0200-005X	COIL	

Symbol No.	Part No.	Part Name	Description
IC1	CXM3005TQ	I.C.(M)	SONY
IC2	TK11100CSC-X	I.C.(M)	TOKO DENSHI
Q1	2SD601A/QR/-X	TRANSISTOR	MATSUSHITA
Q2	2SD601A/QR/-X	TRANSISTOR	MATSUSHITA
Q3	DTA124EUA-X	TRANSISTOR	ROHM
Q4	DTC124EUA-X	TRANSISTOR	ROHM
D1	HZM5.6NB2-X	ZENER DIODE	HITACHI
R1	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R8	NRSA63D-433X	M.G.RESISTOR	43k 1/16W
R9	NRSA63D-433X	M.G.RESISTOR	43k 1/16W
R10	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R11	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R12	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R13	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R14	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R15	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R17	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R18	NRSA63J-683X	M.G.RESISTOR	68k 1/16W
R19	NRSA63J-394X	M.G.RESISTOR	390k 1/16W
R20	NRSA63J-680X	M.G.RESISTOR	68 1/16W
R21	NRSA63J-561X	M.G.RESISTOR	560 1/16W
R23	NRSA63J-332X	M.G.RESISTOR	3.3k 1/16W
R51	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
C1	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C2	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C3	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C4	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C5	NCB11AK-106X	CER.CAPACITOR	10 10V
C6	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C7	NCB11AK-106X	CER.CAPACITOR	10 10V
C8	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C9	NCB10JM-335X	CER.CAPACITOR	3.3 6.3V
C10	NCB31HK-682X	CER.CAPACITOR	6800p 50V
C11	NCB11AK-106X	CER.CAPACITOR	10 10V
C12	NCB11CK-105X	CER.CAPACITOR	1 16V
C13	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C14	NCB30JK-225X	CER.CAPACITOR	2.2 6.3V
C15	NCB30JK-225X	CER.CAPACITOR	2.2 6.3V
C16	NCB30JK-225X	CER.CAPACITOR	2.2 6.3V
C17	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C18	NCB11AK-106X	CER.CAPACITOR	10 10V
C19	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C20	NCB11AK-106X	CER.CAPACITOR	10 10V
C21	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C22	NCB11CK-105X	CER.CAPACITOR	1 16V
C23	NCB11CK-105X	CER.CAPACITOR	1 16V
C24	NDC31HJ-101X	CER.CAPACITOR	100p 50V
C25	NCB11CK-105X	CER.CAPACITOR	1 16V
C26	NCB31HK-102X	CER.CAPACITOR	1000p 50V
C27	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C28	NCB31CK-104X	CER.CAPACITOR	0.1 16V
L1	NQLA3GK-101X	COIL	100uH
L2	NQLA3GK-101X	COIL	100uH
L3	NQLA3GK-101X	COIL	100uH
L4	NQLA3GK-101X	COIL	100uH
L5	NQLA3GK-101X	COIL	100uH
CN60	QGF0517F1-20X	CONNECTOR	20PIN
CN61	QGF0508F2-20X	CONNECTOR	20PIN
CN66	QGA1002F1-02X	CONNECTOR	2PIN
TP1	NNZ0009-001X	TEST POINT	LCD_G
TP2	NNZ0009-001X	TEST POINT	LCD_R
TP3	NNZ0009-001X	TEST POINT	LCD_B
TP4	NNZ0009-001X	TEST POINT	COM OUT

3 4 [VF DR]

Symbol No.	Part No.	Part Name	Description
TP5	NNZ0009-001X	TEST POINT	GND
K1	NQR0265-003X	FERRITE BEADS	
K2	NQR0265-003X	FERRITE BEADS	
K3	NQR0265-003X	FERRITE BEADS	
K4	NQR0265-003X	FERRITE BEADS	
K5	NQR0265-003X	FERRITE BEADS	
K6	NQR0265-003X	FERRITE BEADS	

6.13 MOS BOARD ASSEMBLY PARTS LIST 3 5

CK279400A6 3 5 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
Q1	DTC124EUA-X	TRANSISTOR	ROHM
Q2	DTC124EUA-X	TRANSISTOR	ROHM
D1	SML-020MVT-W	L.E.D.	ROHM
R1	NRSA63D-181X	M.G.RESISTOR	180 1/16W
R2	NRSA63D-101X	M.G.RESISTOR	100 1/16W
C1	NCB31CK-104X	CER.CAPACITOR	0.1 16V
S1	NSW0010-001X	SWITCH	DISPLAY
S2	NSW0070-001X	SLIDE SWITCH	FULL AUTO
S3	NSW0070-002X	SLIDE SWITCH	MONITOR SELECT
CN44	QGF0534F1-18X	CONNECTOR	18PIN

6.14 DC IN BOARD ASSEMBLY PARTS LIST 4 1

CK279800A1 4 1 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
D1	HZM18NB2-X	ZENER DIODE	HITACHI
J5	QNA0010-001	DC JACK	DC INPUT
CN53	WJK0207-002A-E	CONNECTOR	4PIN
CN54	QUB210-07A2MP-E	CONNECTOR	15PIN
CN55	QUB212-09A2MP-E	CONNECTOR	15PIN

6.15 VJK BOARD ASSEMBLY PARTS LIST 4 2

CK279800A2 4 2 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
R1	NRSA63D-470X	M.G.RESISTOR	47 1/16W
R2	NRSA63D-470X	M.G.RESISTOR	47 1/16W
R3	NRSA63D-470X	M.G.RESISTOR	47 1/16W
R4	NRSA63D-102X	M.G.RESISTOR	1k 1/16W
R5	NRSA63D-102X	M.G.RESISTOR	1k 1/16W
J2	QNN0722-001	PIN JACK	Y/VID,Pb,Pr OUT
CN34	QGF0508F1-10X	CONNECTOR	10PIN

6.16 DV OUT BOARD ASSEMBLY PARTS LIST 4 3

CK279800A3 4 3 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
R1	NRSA63J-105X	M.G.RESISTOR	1M 1/16W
R2	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R3	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R4	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R5	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
C1	NCZ1009-472X	CER.CAPACITOR	4700p
J1	QNZ0789-001	MODU CONNECTOR	IEEE1394
CN54	QGA1002C1-06X	CONNECTOR	6PIN

6.17 EAR BOARD ASSEMBLY PARTS LIST 4 4

CK279800A4 4 4 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
R1	NRSA63D-470X	M.G.RESISTOR	47 1/16W
R2	NRSA63D-470X	M.G.RESISTOR	47 1/16W
R3	NRSA63D-470X	M.G.RESISTOR	47 1/16W
R4	NRSA63D-470X	M.G.RESISTOR	47 1/16W
C1	NDC31HJ-181X	CER.CAPACITOR	180p 50V
C2	NDC31HJ-181X	CER.CAPACITOR	180p 50V
C3	NDC31HJ-181X	CER.CAPACITOR	180p 50V
C4	NDC31HJ-181X	CER.CAPACITOR	180p 50V
J6	QNS0261-001	3.5 JACK	EAR PHONE
J7	QNS0261-001	3.5 JACK	EAR PHONE
CN12	QGA1002F1-07X	CONNECTOR	7PIN
CN47	QGA1002F1-02X	CONNECTOR	2PIN
K1	NQR0200-004X	FILTER(CHIP)	
K2	NQR0200-004X	FILTER(CHIP)	

6.18 MNU BOARD ASSEMBLY PARTS LIST 5 1

CK279900A1 5 1 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
JS1	QSW0603-001	ROTARY SWITCH	SHUTTER
CN51	QGA1002C1-04X	CONNECTOR	4PIN

6.19 OPE BOARD ASSEMBLY PARTS LIST 5 2

CK279900A2 5 2 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
R1	NRSA63D-102X	M.G.RESISTOR	1k 1/16W
R2	NRSA63D-122X	M.G.RESISTOR	1.2k 1/16W
R3	NRSA63D-222X	M.G.RESISTOR	2.2k 1/16W
S1	NSW0010-001X	SWITCH	REW
S2	NSW0010-001X	SWITCH	STOP
S3	NSW0010-001X	SWITCH	FF
S4	NSW0010-001X	SWITCH	PLAY/STILL
CN4	QGA1002F1-03X	CONNECTOR	3PIN

6.20 EJT BOARD ASSEMBLY PARTS LIST 5 3

CK279900A3 5 3 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
Q1	DTC124EUA-X	TRANSISTOR	ROHM
D1	SML-210MT/MN/-X	L.E.D.	ROHM
R1	NRSA63J-471X	M.G.RESISTOR	470 1/16W
S1	NSW0233-001X	PUSH SWITCH	EJECT
CN42	QGF0508F1-06X	CONNECTOR	6PIN

6.21 VF IF BOARD ASSEMBLY PARTS LIST 5 4

CK279900A4 5 4 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
D1	NNCD6.2D-A-X	Z DIODE	NEC
D2	NNCD6.2D-A-X	Z DIODE	NEC
D3	NNCD6.2D-A-X	Z DIODE	NEC
D4	NNCD6.2D-A-X	Z DIODE	NEC
D5	NNCD6.2D-A-X	Z DIODE	NEC
D6	NNCD6.2D-A-X	Z DIODE	NEC
R1	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R2	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R3	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R10	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R51	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R52	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R53	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
C51	NCB11AK-106X	CER.CAPACITOR	10 10V
C52	NCB11AK-106X	CER.CAPACITOR	10 10V
C53	NCB11AK-106X	CER.CAPACITOR	10 10V
CN60	QGF0517F1-20X	CONNECTOR	20PIN
CN65	QGA1206C2-20X	CONNECTOR	20PIN
TP1	NNZ0009-001X	TEST POINT	G IN
TP2	NNZ0009-001X	TEST POINT	R IN
TP3	NNZ0009-001X	TEST POINT	B IN
TP4	NNZ0009-001X	TEST POINT	GND

6.22 AWB BOARD ASSEMBLY PARTS LIST 5 5

CK279900A5 5 5 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
S1	NSW0010-001X	SWITCH	AWB
CN9	QGA1002C1-02X	CONNECTOR	2PIN

6.23 XLR BOARD ASSEMBLY PARTS LIST 5 6

CK279900A6 5 6 □ □ □ □ □ □

Symbol No.	Part No.	Part Name	Description
R1	NRSA63J-202X	M.G.RESISTOR	2k 1/16W
R2	NRSA63J-202X	M.G.RESISTOR	2k 1/16W
R3	NRSA63J-202X	M.G.RESISTOR	2k 1/16W
R4	NRSA63J-202X	M.G.RESISTOR	2k 1/16W
R5	NRSA63J-202X	M.G.RESISTOR	2k 1/16W
R6	NRSA63J-202X	M.G.RESISTOR	2k 1/16W
R7	NRSA63J-202X	M.G.RESISTOR	2k 1/16W
R8	NRSA63J-202X	M.G.RESISTOR	2k 1/16W
R9	NRSA63D-272X	M.G.RESISTOR	2.7k 1/16W
R10	NRSA63D-272X	M.G.RESISTOR	2.7k 1/16W
R11	NRSA63D-272X	M.G.RESISTOR	2.7k 1/16W
R12	NRSA63D-272X	M.G.RESISTOR	2.7k 1/16W
R13	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R14	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R15	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R16	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
C1	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C2	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C3	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C4	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C5	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C6	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C7	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C8	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C9	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C10	NCB31CK-104X	CER.CAPACITOR	0.1 16V
C11	NCB31HK-222X	CER.CAPACITOR	2200p 50V
C12	NCB31HK-222X	CER.CAPACITOR	2200p 50V
C13	NELA1JM-475X	E.CAPACITOR	4.7 63V
C14	NELA1JM-475X	E.CAPACITOR	4.7 63V
C15	NELA1JM-475X	E.CAPACITOR	4.7 63V
C16	NELA1JM-475X	E.CAPACITOR	4.7 63V
L1	NQL124J-101X	COIL	100uH
L2	NQL124J-101X	COIL	100uH
L3	NQL124J-101X	COIL	100uH
L4	NQL124J-101X	COIL	100uH
J8	QNZ0013-001	CONNECTOR	AUDIO INPUT 1
J9	QNZ0013-001	CONNECTOR	AUDIO INPUT 2
CN1	NNZ0137-001X	CONNECTOR	
CN2	NNZ0137-001X	CONNECTOR	
CN41	QGF0534F1-13X	CONNECTOR	13PIN
K1	NQR0200-004X	FILTER(CHIP)	
K2	NQR0200-004X	FILTER(CHIP)	
K3	NQR0200-004X	FILTER(CHIP)	
K4	NQR0200-004X	FILTER(CHIP)	

6.24 SWP BOARD ASSEMBLY PARTS LIST 5 7

CK279900A7 5 7 □ □ □ □ □ □

Symbol No.	Part No.	Part Name	Description
D1	HZM36NB-W	ZENER DIODE	HITACHI
S1	QSW0048-001	TOGGLE SWITCH	POWER
CN52	QGA1002F1-02X	CONNECTOR	2PIN

6.25 STA BOARD ASSEMBLY PARTS LIST 5 8

CK279900A8 5 8 □ □ □ □ □ □

Symbol No.	Part No.	Part Name	Description
Q1	DTC124EUA-X	TRANSISTOR	ROHM
Q2	DTC124EUA-X	TRANSISTOR	ROHM
D1	SML011BBT/PQR-X	L.E.D.	ROHM
D2	SML-011DT/LMN-X	L.E.D.	ROHM
R1	NRSA63D-681X	M.G.RESISTOR	680 1/16W
R2	NRSA63D-681X	M.G.RESISTOR	680 1/16W
R3	NRSA63D-122X	M.G.RESISTOR	1.2k 1/16W
R4	NRSA63D-122X	M.G.RESISTOR	1.2k 1/16W
S1	NSW0010-001X	SWITCH	STATUS
S2	NSW0233-001X	PUSH SWITCH	ND FILTER
S3	NSW0233-001X	PUSH SWITCH	ND FILTER
CN10	QGF0508F1-24X	CONNECTOR	24PIN
CN50	QGF0534F1-11X	CONNECTOR	11PIN
CN51	QGA1002F1-04X	CONNECTOR	4PIN
CN52	QGA1002F1-02X	CONNECTOR	2PIN

6.26 AVR BOARD ASSEMBLY PARTS LIST 5 9

CK279900A9 5 9 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
Q1	DTC124EUA-X	TRANSISTOR	ROHM
Q2	DTC124EUA-X	TRANSISTOR	ROHM
D1	SML-020MVT-W	L.E.D.	ROHM
D2	SML-020MVT-W	L.E.D.	ROHM
D3	HZM12NB2-X	ZENER DIODE	HITACHI
D4	HZM12NB2-X	ZENER DIODE	HITACHI
D5	HZM12NB2-X	ZENER DIODE	HITACHI
D6	HZM12NB2-X	ZENER DIODE	HITACHI
R1	NRSA63D-221X	M.G.RESISTOR	220 1/16W
R2	NRSA63D-391X	M.G.RESISTOR	390 1/16W
R3	NRSA63D-221X	M.G.RESISTOR	220 1/16W
R4	NRSA63D-391X	M.G.RESISTOR	390 1/16W
R5	NRSA63D-222X	M.G.RESISTOR	2.2k 1/16W
R6	NRSA63D-222X	M.G.RESISTOR	2.2k 1/16W
R7	NRSA63D-222X	M.G.RESISTOR	2.2k 1/16W
R8	NRSA63D-222X	M.G.RESISTOR	2.2k 1/16W
VR1	QVQ0336-A14	VAL.RESISTOR	A10k A.LEVEL 1
VR2	QVQ0336-A14	VAL.RESISTOR	A10k A.LEVEL 2
C1	NCB31CK-104X	CER.CAPACITOR	0.1 16V
S1	QSW0049-001	TOGGLE SWITCH	WHITE BALANCE
S2	QSW0052-001	TOGGLE SWITCH	GAIN
S3	NSW0010-001X	SWITCH	REC
CN45	QGF0534F1-18X	CONNECTOR	18PIN

6.27 MON BL BOARD ASSEMBLY PARTS LIST 6 1

CK280200A1 6 1 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
IC901	TK11880F-W	I.C.(M)	TOKO DENSHI
D901	RB160M-30-X	SB DIODE	ROHM
R902	NRSA63J-680X	M.G.RESISTOR	68 1/16W
R904	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R906	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R907	NRSA63J-680X	M.G.RESISTOR	68 1/16W
R914	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R919	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R920	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R922	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
C901	NCB11AK-225X	CER.CAPACITOR	2.2 10V
C902	NCB11CK-105X	CER.CAPACITOR	1 16V
C903	NCB11HK-224X	CER.CAPACITOR	0.22 50V
C904	NCB11HK-224X	CER.CAPACITOR	0.22 50V
C909	NCB11AK-225X	CER.CAPACITOR	2.2 10V
C951	NCB11HK-224X	CER.CAPACITOR	0.22 50V
C952	NCB11HK-224X	CER.CAPACITOR	0.22 50V
C953	NCB11HK-224X	CER.CAPACITOR	0.22 50V
L901	NQL89EM-220X	COIL	22uH
CN62	QGF0506F2-32X	CONNECTOR	32PIN
CN63	QGF1004F2-06X	CONNECTOR	6PIN
CN64	QGF0517F1-24X	CONNECTOR	24PIN
CN901	NNZ0137-001X	CONNECTOR	

6.28 FTY BOARD ASSEMBLY PARTS LIST 6 2

CK280200A2 6 2 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
D1	SML-012UT/RST-X	L.E.D.	ROHM
D2	SML-012UT/RST-X	L.E.D.	ROHM
D3	SML-012UT/RST-X	L.E.D.	ROHM
R3	NRSA63D-471X	M.G.RESISTOR	470 1/16W
R4	NRSA63D-271X	M.G.RESISTOR	270 1/16W
R5	NRSA63D-681X	M.G.RESISTOR	680 1/16W
R6	NRSA63D-681X	M.G.RESISTOR	680 1/16W
CN8	QGF0508F1-06X	CONNECTOR	6PIN

6.29 USR BOARD ASSEMBLY PARTS LIST 6 3

CK280200A3 6 3 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
S1	NSW0010-001X	SWITCH	USER1
S2	NSW0010-001X	SWITCH	USER2
S3	NSW0010-001X	SWITCH	USER3
CN50	QGF0508F1-11X	CONNECTOR	11PIN
CN55	QGF0508F1-10X	CONNECTOR	10PIN

6.30 FRL BOARD ASSEMBLY PARTS LIST 6 4

CK280200A4 6 4 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
S1	NSW0010-001X	SWITCH	FOCUS ASSIST
S2	NSW0010-001X	SWITCH	REC
S3	NSW0256-001X	SLIDE SWITCH	REC LOCK
CN8	QGF0508F1-06X	CONNECTOR	6PIN
CN48	QGF0508F1-10X	CONNECTOR	10PIN

6.31 PBM BOARD ASSEMBLY PARTS LIST 6 5
CK280200A5 6 5 ☐ ☐ ☐ ☐ ☐ ☐

Symbol No.	Part No.	Part Name	Description
R1	NRSA63D-101X	M.G.RESISTOR	100 1/16W
R2	NRSA63D-101X	M.G.RESISTOR	100 1/16W
R3	NRSA63D-101X	M.G.RESISTOR	100 1/16W
R4	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R5	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
VR1	QVQ0336-B14	VAL.RESISTOR	B10k PEAKING
VR2	QVQ0336-B14	VAL.RESISTOR	B10k VF BRIGHT
VR3	QVQ0336-B14	VAL.RESISTOR	B10k MONITOR
C1	NCB31CK-473X	CER.CAPACITOR	0.047 16V
C2	NCB31CK-473X	CER.CAPACITOR	0.047 16V
C3	NCB31CK-473X	CER.CAPACITOR	0.047 16V
S1	QSW0189-001Z	PUSH SWITCH	FOCUS ASSIST
CN55	QGF0534F1-10X	CONNECTOR	10PIN

6.32 ZBR BOARD ASSEMBLY PARTS LIST 6 6
CK280200A6 6 6 ☐ ☐ ☐ ☐ ☐ ☐

Symbol No.	Part No.	Part Name	Description
D1	HZM12NB2-X	ZENER DIODE	HITACHI
D2	HZM12NB2-X	ZENER DIODE	HITACHI
S1	QSW0052-005	TOGGLE SWITCH	ZEBRA/SKIN AREA
CN9	QGA1002C1-03X	CONNECTOR	3PIN

6.33 A.JACK BOARD ASSEMBLY PARTS LIST 6 7
CK280200A7 6 7 ☐ ☐ ☐ ☐ ☐ ☐

Symbol No.	Part No.	Part Name	Description
C1	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C2	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C3	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C4	NDC31HJ-221X	CER.CAPACITOR	220p 50V
S1	QSW1119-001	SLIDE SWITCH	IEEE1394
J3	QNS0203-001	JACK	LINE OUTPUT
CN11	QGA1002F1-06X	CONNECTOR	6PIN
CN19	QGA1002F1-13X	CONNECTOR	13PIN
CN54	QGA1002F1-06X	CONNECTOR	6PIN
J1	QUB220-05MPRL-E	SIN TWIST WIRE	
K1	NQR0200-004X	FILTER(CHIP)	
K2	NQR0200-004X	FILTER(CHIP)	

6.34 FNC BOARD ASSEMBLY PARTS LIST 6 8
CK280200A8 6 8 ☐ ☐ ☐ ☐ ☐ ☐

Symbol No.	Part No.	Part Name	Description
CN90	QGA1002F1-02X	CONNECTOR	2PIN

6.35 M.CONN. BOARD ASSEMBLY PARTS LIST 7 0
LK2149A0A1 7 0 ☐ ☐ ☐ ☐ ☐ ☐

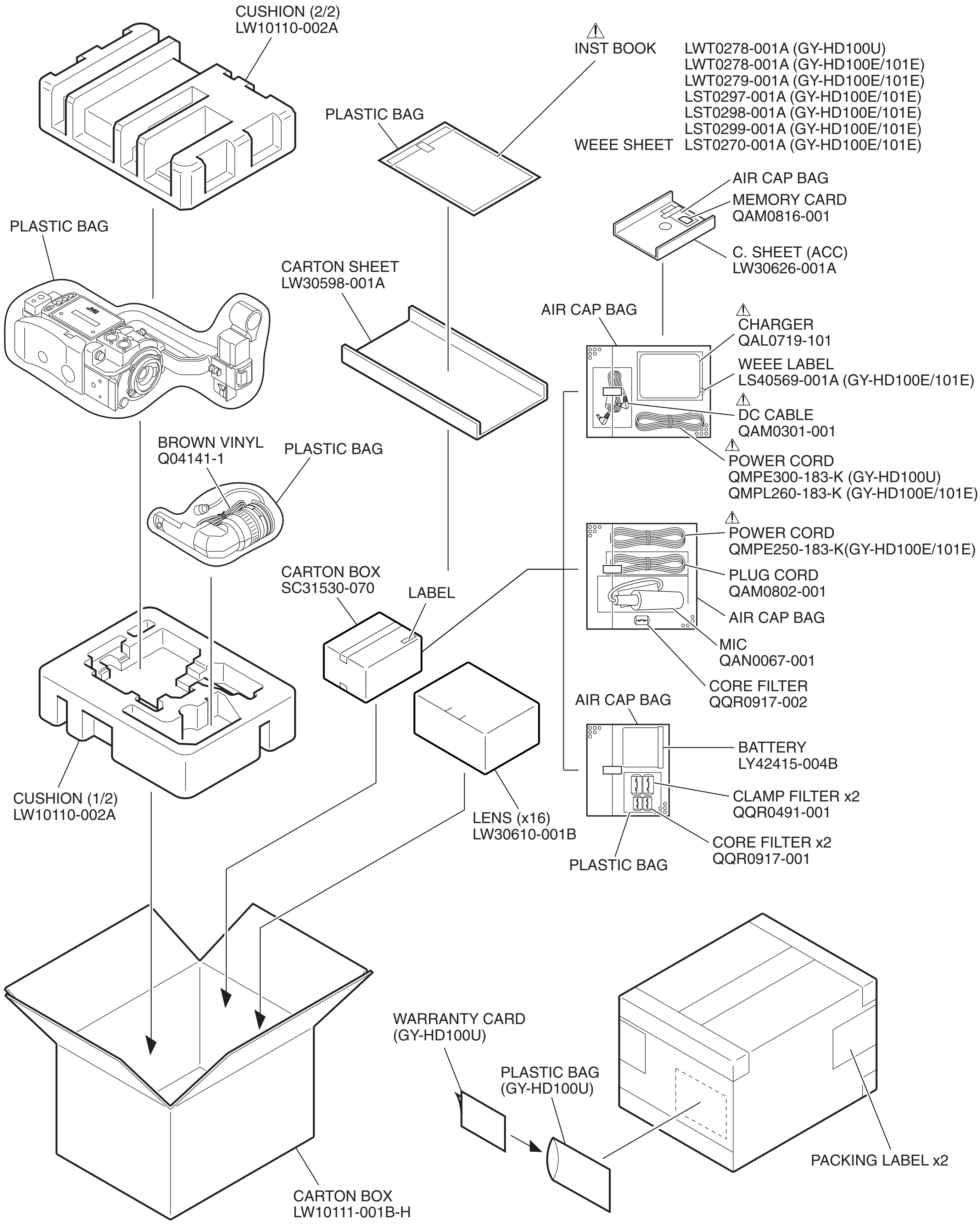
Symbol No.	Part No.	Part Name	Description
CN1	QGF0508F1-11X	CONNECTOR	11PIN
CN2	QGF0508F1-13X	CONNECTOR	13PIN

6.36 TERM. BOARD ASSEMBLY PARTS LIST 8 0
8 0 ☐ ☐ ☐ ☐ ☐ ☐

Symbol No.	Part No.	Part Name	Description
PWB	SC84552-002	TERM. BOARD	

SECTION 7
PACKING

7.1 PACKING ASSEMBLY M 1


CUSHION (2/2)
LW10110-002A
⚠
INST BOOK LWT0278-001A (GY-HD100U)
LWT0278-001A (GY-HD100E/101E)
LWT0279-001A (GY-HD100E/101E)
LST0297-001A (GY-HD100E/101E)
LST0298-001A (GY-HD100E/101E)
LST0299-001A (GY-HD100E/101E)
WEEE SHEET LST0270-001A (GY-HD100E/101E)
PLASTIC BAG
AIR CAP BAG
MEMORY CARD
QAM0816-001
PLASTIC BAG
C. SHEET (ACC)
LW30626-001A
CARTON SHEET
LW30598-001A
AIR CAP BAG
⚠
CHARGER
QAL0719-101
WEEE LABEL
LS40569-001A (GY-HD100E/101E)
⚠
DC CABLE
QAM0301-001
BROWN VINYL
Q04141-1
PLASTIC BAG
⚠
POWER CORD
QMPE300-183-K (GY-HD100U)
QMPL260-183-K (GY-HD100E/101E)
⚠
POWER CORD
QMPE250-183-K(GY-HD100E/101E)
CARTON BOX
SC31530-070
LABEL
PLUG CORD
QAM0802-001
AIR CAP BAG
MIC
QAN0067-001
CORE FILTER
QQR0917-002
AIR CAP BAG
BATTERY
LY42415-004B
CUSHION (1/2)
LW10110-002A
CLAMP FILTER x2
QQR0491-001
LENS (x16)
LW30610-001B
CORE FILTER x2
QQR0917-001
PLASTIC BAG
WARRANTY CARD
(GY-HD100U)
PLASTIC BAG
(GY-HD100U)
PACKING LABEL x2
CARTON BOX
LW10111-001B-H

SECTION 4
CHARTS AND DIAGRAMS

■ SCHEMATIC DIAGRAM NOTES

- Schematic safety precaution
  ⚠ Parts are safety related parts.
  When replacing them, be sure to use the specified parts.
- Unit of value
  Unless otherwise specified
  1) Resistance is in Ω (1/6 W)
  2) Capacitance is in μF
  3) Inductance is in μH
- Expression of wiring

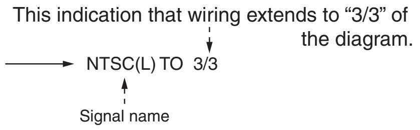
As the following circuit diagram is divided to print on some sheets, such an indication as the following is found in the case the wiring extends over two or more divided sections.

1) Circuit diagram divided into two or more sections:

Board	Board Name	Number of divided sections
10	MAIN	1/18 to 18/18
20	MIF	1/7 to 7/7
30	AUDIO	1/2 to 2/2
33	PR MDA	1/3 to 3/3

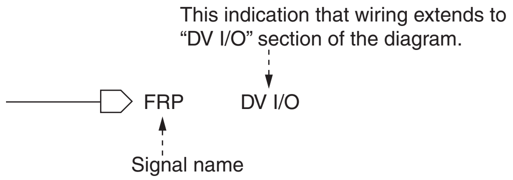
2) Indication of wiring which extends to another section:
(Example)

A)


This indication that wiring extends to "3/3" of the diagram.
NTSC(L) TO 3/3
Signal name

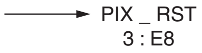
In the above case, the end of the wiring is connected to the "NTSC(L)" on the 3nd section of the diagram.

B)


This indication that wiring extends to "DV I/O" section of the diagram.
FRP
DV I/O
Signal name

In the above case, the end of the wiring is connected to the "FRP" on the "DV I/O" section of the diagram.

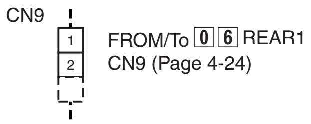
C)



In the above case, the end of the wiring is connected to the "PIX _ RST" on "E" (X-axis) and "8" (Y-axis) position scale in page "3" of the diagram.

- Wiring of connector

(Example)


CN9
1
2
FROM/To 06 REAR1
CN9 (Page 4-24)

In the above example, CN9 is connected with CN9 on 06 REAR1 board.

- Signal flow on the diagram

The following allow marks indicate the specified signal paths respectively.

➡ : Recording or EE signal path
⇨ : Playback signal ptah
➩ : Recording and Playback signal path

- Others

In regard of a board assembly whose circuit is composed of multilayered board patterns such 4- or 6-layered patterns, board patterns of the power supply lines and grounding lines are omitted in this section.

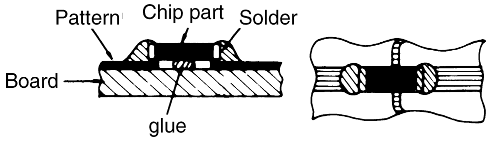
Note: For detail of each electrical part, refer to Section 6 "ELECTRICAL PARTS LIST" by it symbol number.

■ REPLACING SURFACE MOUNT "CHIP" COMPONENTS

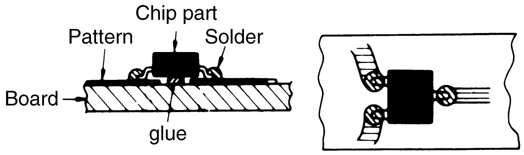
- Some resistors, shorting jumpers (0 resistance), ceramic capacitors, transistors, and diodes are chip parts. These chip parts cannot be reused after they are once removed.
- Chip resistors used in some circuits are of high precision type having little error in resistance.
  To demonstrate the full capacity of this set, place an order for proper parts referring to the diagrams and parts lists in the section 5.
- Soldering cautions:
  1) Do not apply heat for more than 3 seconds.
  2) Avoid using a rubbing stroke when soldering.
  3) Discard removed chips; do not reuse them.
  4) Supplementary cementing is not required.
  5) Use care not to scratch or otherwise damage the chips.

(1) Soldered condition of chip parts

- Resistors, capacitors, etc.

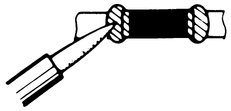

Pattern
Chip part
Solder
Board
glue

- Transistors, diodes, etc.

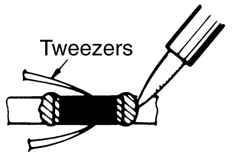

Chip part
Pattern
Solder
Board
glue

(2) Removing of chip parts

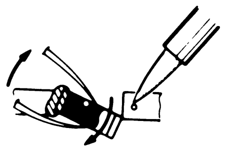
- Resistors, capacitors, etc.
  i) Melt solder at a side.



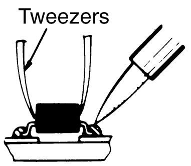
ii) Holding the chip with tweezers, melt solder at the other side.



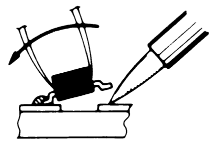
iii) Take off the chip in twisting and sliding motion.



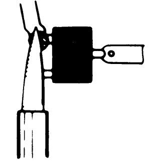
- Transistors, diodes, etc.
  i) Melt solder at the side of single lead.



  ii) Lift the unsolderd side upwards.



  iii) Simultaneously melt solder at two leads of the other side and pull up the chip.

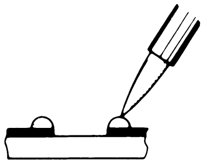


(3) Preheating and soldering of chip parts

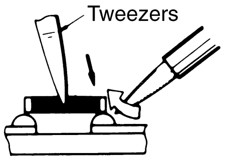
Except transistors, make sure to preheat all chip parts, capacitors in particular, with a hot wind of 150°C approx. (of a hair dryer, etc.) for 2 minutes just before soldering, and immediately solder by a soldering iron of approx. 30 W.

(4) Attaching of chip parts

i) Heap up a proper amount of solder beforehand.



ii) Holding down a new chip by tweezers, solder it to the board by a soldering iron to melt solder from its lower part to the upper part (in the direction shown by a big arrow).

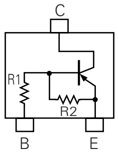


■ CHIP PARTS PIN ARRANGEMENT

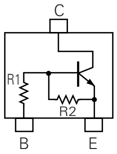
[1] Digital transistors

DTC 1 □□□□
① ②③

DTA 1 □□□□
DTB 1 □□□□
① ②③



(Top view)



(Top view)

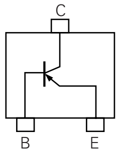
① Two digits show resistance of R1 in abbreviation.
43 : 4.7 kΩ
14 : 10 kΩ
24 : 22 kΩ
44 : 47 kΩ

② Roman letter show the resistive ratio between R1 and R2 in abbreviation.
E : R2/R1 = 1/1
Y : R2/R1 = 5/1
W : R2/R1 = 2/1
X : R2/R1 = 1/2
T : R2 is opened.

③ Symbol the shape of resistor in abbreviation.

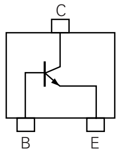
[2] Chip transistors and chip F.E.T.s

2SA □□□□
2SB □□□□



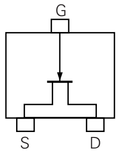
(Top view)

2SC □□□□
2SD □□□□



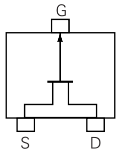
(Top view)

2SK □□□□



(Top view)

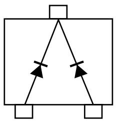
2SJ □□□□



(Top view)

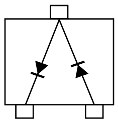
[3] Chip diodes

MA143A/MA742



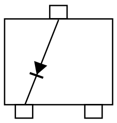
(Top view)

MA142WA



(Top view)

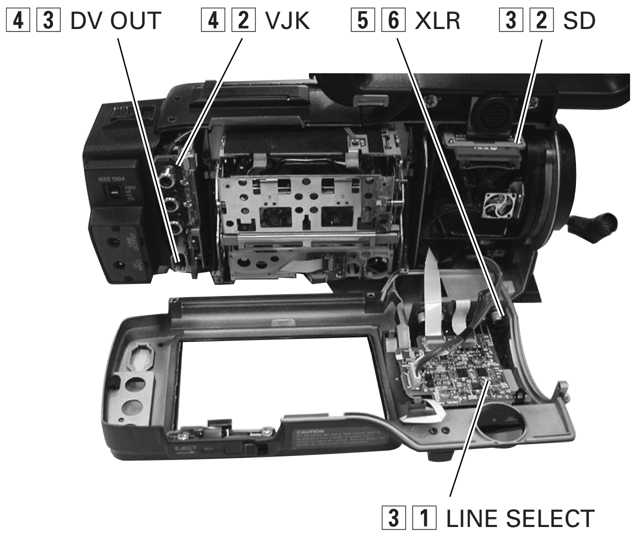
MA142A

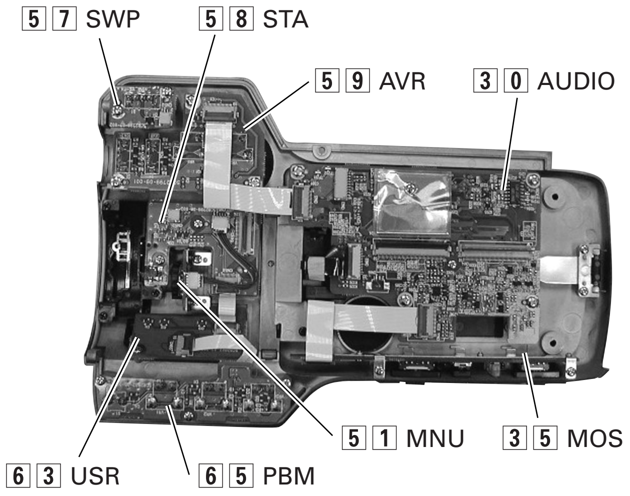


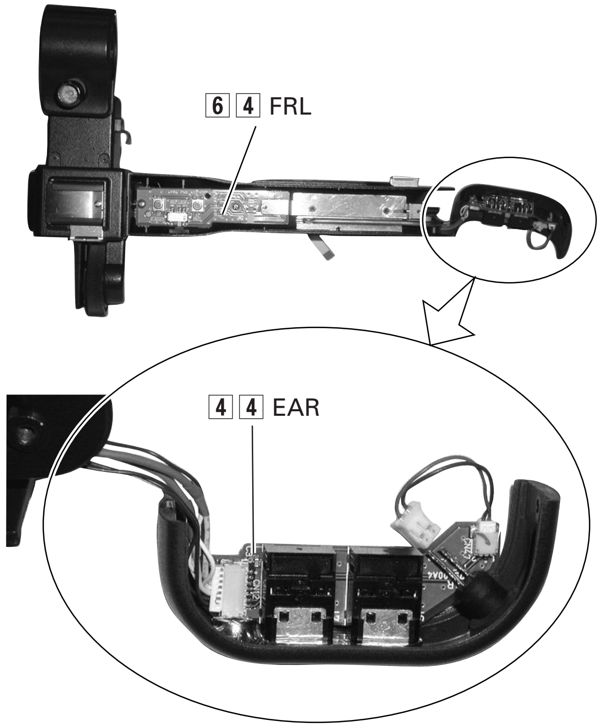
(Top view)

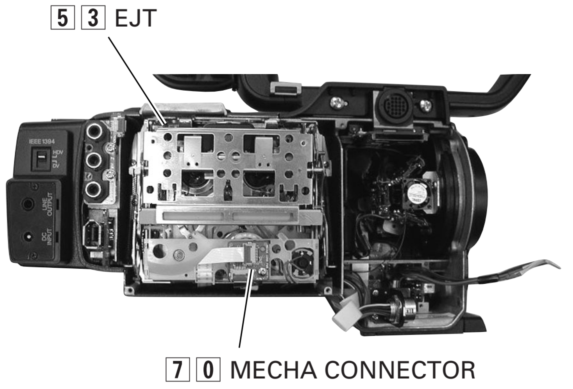
4.1 INDEX TO PAGES OF MAIN BOARDS AND CIRCUIT BOARD LOCATION

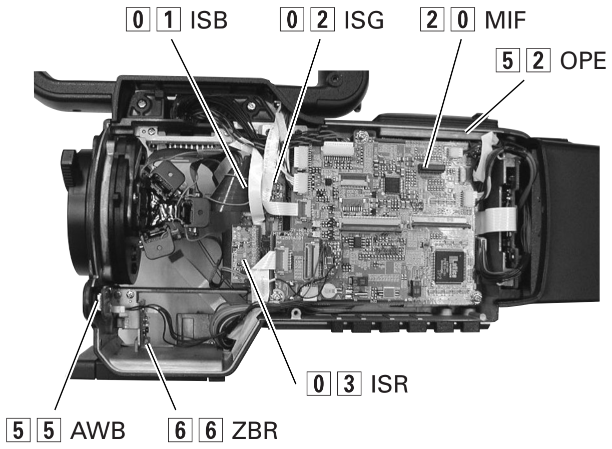
4.1.1 Circuit board location

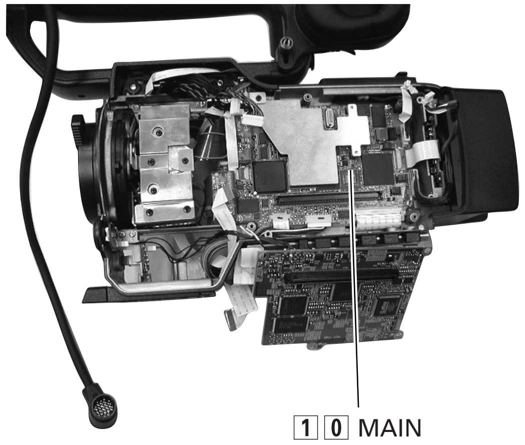

43 DV OUT
42 VJK
56 XLR
32 SD
31 LINE SELECT

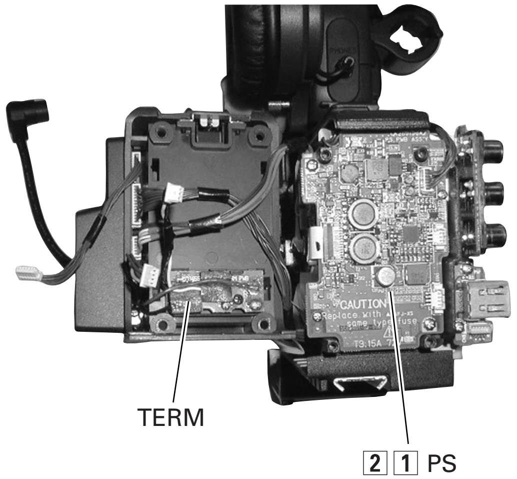

57 SWP
58 STA
59 AVR
30 AUDIO
51 MNU
35 MOS
63 USR
65 PBM

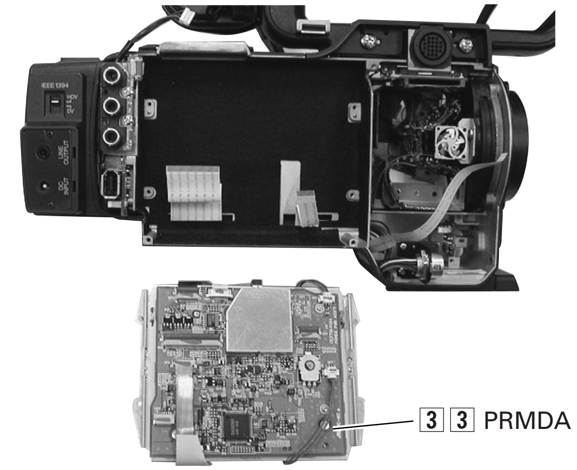

64 FRL
44 EAR


53 EJT
70 MECHA CONNECTOR


01 ISB
02 ISG
20 MIF
52 OPE
03 ISR
55 AWB
66 ZBR





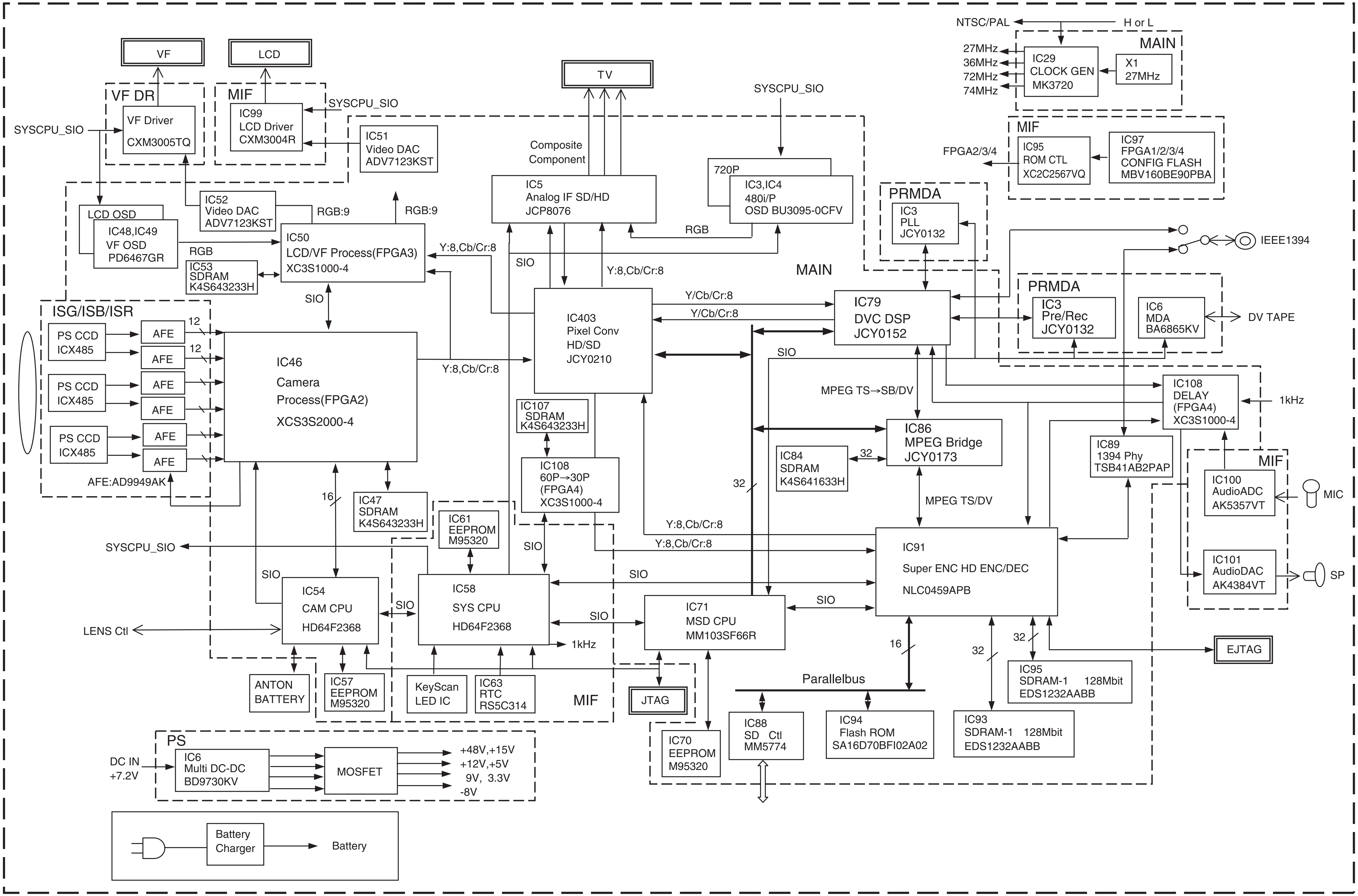


Board No.	Board Name	Page of diagram	
		Schematic diagram	Circuit board
01	ISB	4-8	4-10
02	ISG	4-7	4-10
03	ISR	4-9	4-10
10	MAIN	4-11 to 4-28	4-29
20	MIF	4-31 to 4-37	4-30
21	PS	4-38	4-30
30	AUDIO	4-44 to 4-45	4-43
31	LINE SELECT	4-46	4-47
32	SD	4-48	4-49
33	PRMDA	4-40 to 4-42	4-39
34	VF DR	4-56	4-55

Board No.	Board Name	Page of diagram	
		Schematic diagram	Circuit board
35	MOS	4-48	4-49
41	DC IN	4-48	4-49
42	V JK	4-48	4-49
43	DV OUT	4-48	4-49
44	EAR	4-48	4-49
51	MNU	4-50	4-51
52	OPE	4-50	4-51
53	EJT	4-50	4-51
54	VF IF	4-54	4-55
55	AWB	4-50	4-51
56	XLR	4-50	4-51

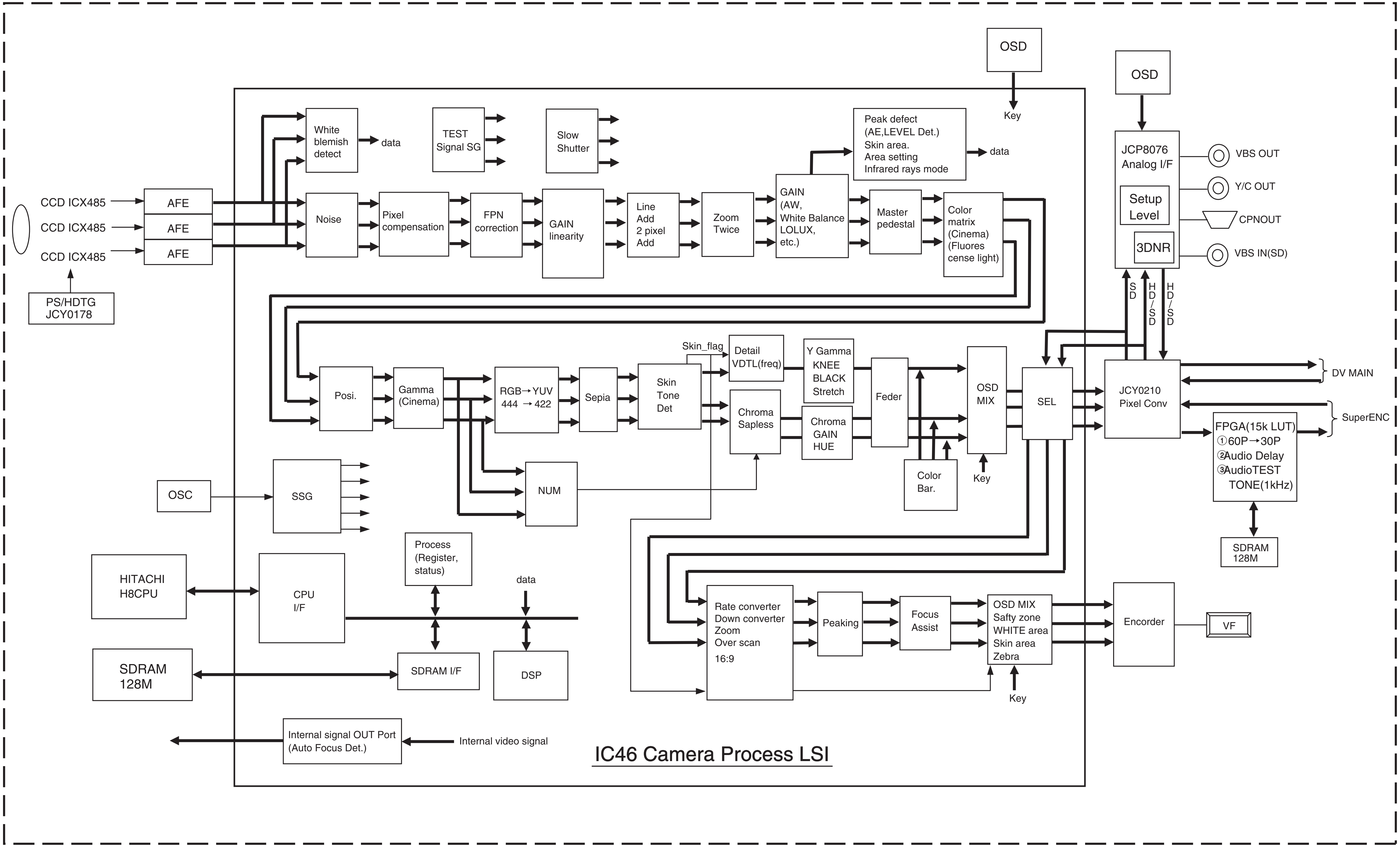
Board No.	Board Name	Page of diagram	
		Schematic diagram	Circuit board
57	SWP	4-50	4-51
58	STA	4-50	4-51
59	AVR	4-50	4-51
61	M BL	4-57	4-58
62	FTY	4-52	4-53
63	USR	4-52	4-53
64	FRL	4-52	4-53
65	PBM	4-52	4-53
66	ZBR	4-52	4-53
67	A JACK	4-52	4-53
70	MECHA CONNECTOR	4-52	4-53
80	FNC	4-52	4-53

4.2 GY-HD100 BLOCK DIAGRAM

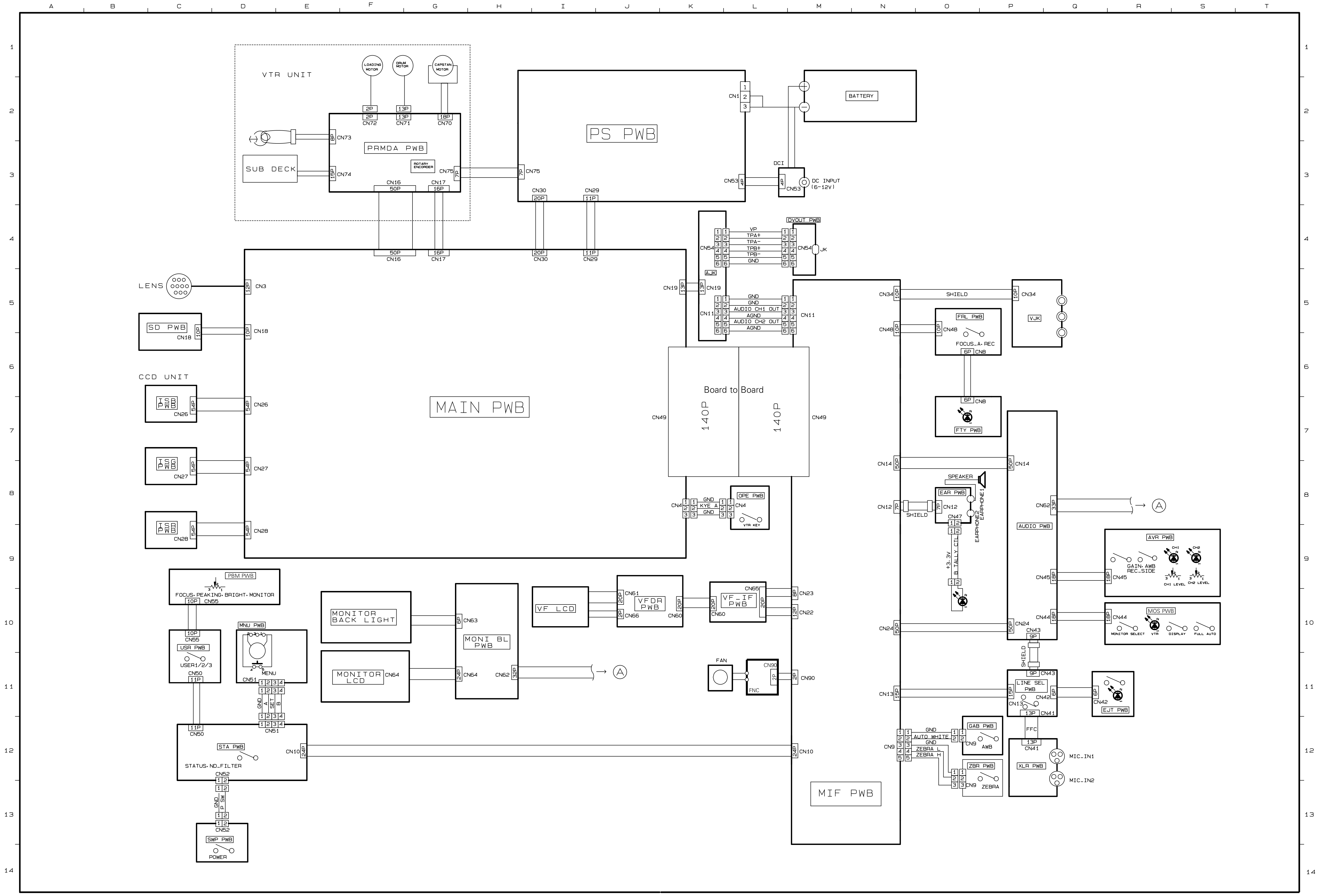


VF
LCD
TV
VF DR
VF Driver
CXM3005TQ
MIF
IC99
LCD Driver
CXM3004R
SYSCPU_SIO
SYSCPU_SIO
IC51
Video DAC
ADV7123KST
Composite
Component
SYSCPU_SIO
NTSC/PAL
H or L
MAIN
27MHz
36MHz
72MHz
74MHz
IC29
CLOCK GEN
MK3720
X1
27MHz
MIF
FPGA2/3/4
IC95
ROM CTL
XC2C2567VQ
IC97
FPGA1/2/3/4
CONFIG FLASH
MBV160BE90PBA
720P
IC3,IC4
480i/P
OSD BU3095-0CFV
IC5
Analog IF SD/HD
JCP8076
LCD OSD
IC48,IC49
VF OSD
PD6467GR
IC52
Video DAC
ADV7123KST
RGB:9
RGB:9
RGB
IC50
LCD/VF Process(FPGA3)
XC3S1000-4
IC53
SDRAM
K4S643233H
Y:8,Cb/Cr:8
SIO
Y:8,Cb/Cr:8
RGB
MAIN
PRMDA
IC3
PLL
JCY0132
IEEE1394
SIO
ISG/ISB/ISR
PS CCD
ICX485
AFE
AFE
12
12
PS CCD
ICX485
AFE
AFE
PS CCD
ICX485
AFE
AFE
AFE:AD9949AK
IC46
Camera
Process(FPGA2)
XCS3S2000-4
Y:8,Cb/Cr:8
IC403
Pixel Conv
HD/SD
JCY0210
Y/Cb/Cr:8
Y/Cb/Cr:8
IC79
DVC DSP
JCY0152
PRMDA
IC3
Pre/Rec
JCY0132
IC6
MDA
BA6865KV
DV TAPE
SIO
MPEG TS→SB/DV
IC108
DELAY
(FPGA4)
XC3S1000-4
1kHz
IC107
SDRAM
K4S643233H
IC86
MPEG Bridge
JCY0173
IC84
SDRAM
K4S641633H
32
IC89
1394 Phy
TSB41AB2PAP
MIF
IC100
AudioADC
AK5357VT
MIC
16
IC47
SDRAM
K4S643233H
IC108
60P→30P
(FPGA4)
XC3S1000-4
32
MPEG TS/DV
IC61
EEPROM
M95320
SYSCPU_SIO
SIO
Y:8,Cb/Cr:8
Y:8,Cb/Cr:8
IC91
Super ENC HD ENC/DEC
NLC0459APB
IC101
AudioDAC
AK4384VT
SP
SIO
IC54
CAM CPU
HD64F2368
SIO
IC58
SYS CPU
HD64F2368
SIO
SIO
IC71
MSD CPU
MM103SF66R
SIO
LENS Ctl
1kHz
16
32
32
EJTAG
IC95
SDRAM-1 128Mbit
EDS1232AABB
ANTON
BATTERY
IC57
EEPROM
M95320
KeyScan
LED IC
IC63
RTC
RS5C314
MIF
JTAG
Parallelbus
IC88
SD Ctl
MM5774
IC94
Flash ROM
SA16D70BFI02A02
IC93
SDRAM-1 128Mbit
EDS1232AABB
IC70
EEPROM
M95320
PS
DC IN
+7.2V
IC6
Multi DC-DC
BD9730KV
MOSFET
+48V,+15V
+12V,+5V
9V, 3.3V
-8V
Battery
Charger
Battery

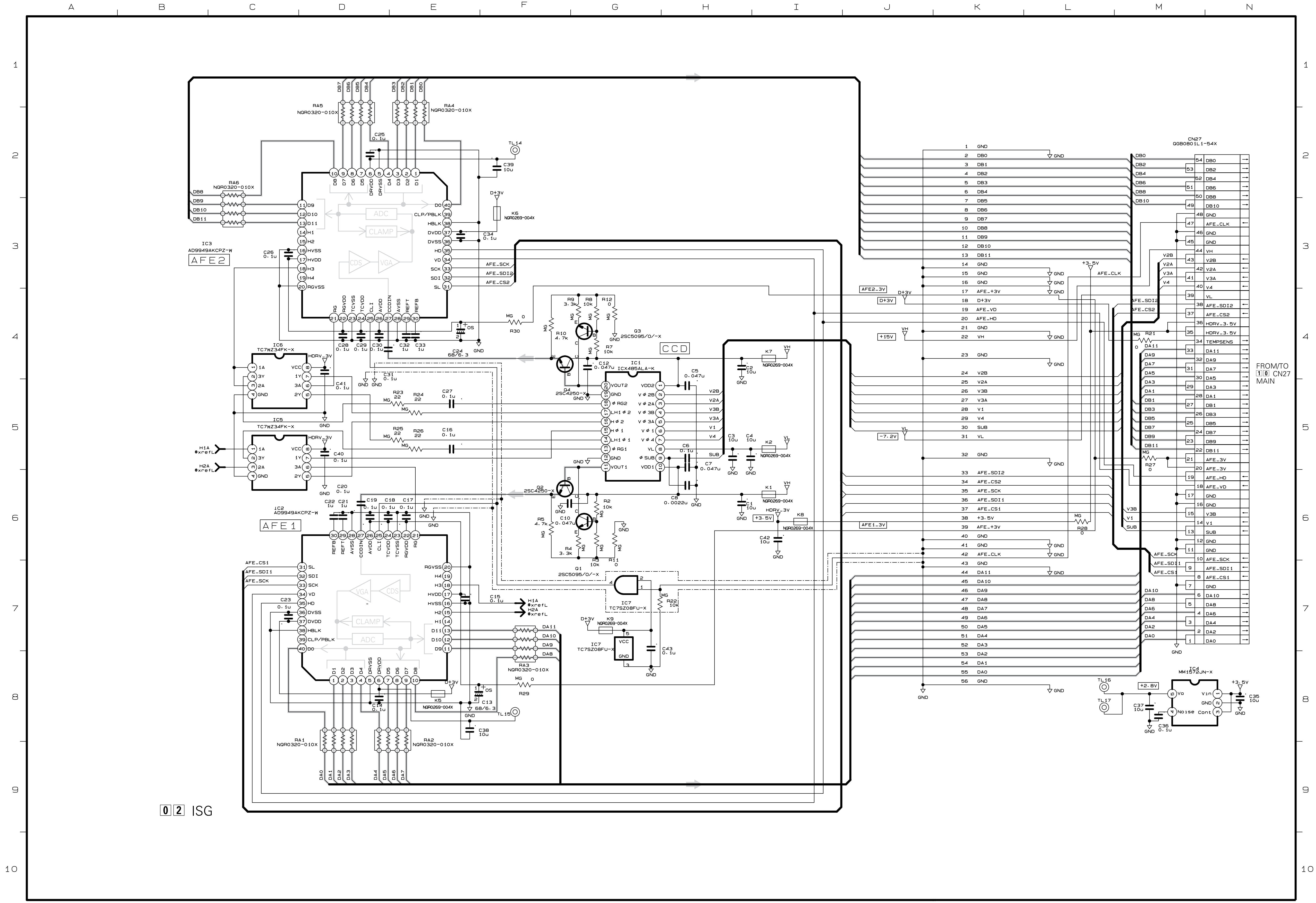
4.3 CAMERA PROCESS BLOCK DIAGRAM


CCD ICX485
CCD ICX485
CCD ICX485
PS/HDTG
JCY0178
AFE
AFE
AFE
White blemish detect
data
TEST Signal SG
Slow Shutter
Peak defect (AE,LEVEL Det.) Skin area. Area setting Infrared rays mode
data
OSD
Key
OSD
Noise
Pixel compensation
FPN correction
GAIN linearity
Line Add 2 pixel Add
Zoom Twice
GAIN (AW, White Balance LOLUX, etc.)
Master pedestal
Color matrix (Cinema) (Fluores cense light)
JCP8076 Analog I/F
Setup Level
3DNR
VBS OUT
Y/C OUT
CPNOUT
VBS IN(SD)
SD
HD/SD
HD/SD
Posi.
Gamma (Cinema)
RGB→YUV 444 → 422
Sepia
Skin Tone Det
Skin_flag
Detail VDTL(freq)
Chroma Sapless
Y Gamma KNEE BLACK Stretch
Chroma GAIN HUE
Feder
OSD MIX
Color Bar.
Key
SEL
JCY0210 Pixel Conv
DV MAIN
SuperENC
FPGA(15k LUT) ①60P→30P ②Audio Delay ③AudioTEST TONE(1kHz)
SDRAM 128M
OSC
SSG
NUM
HITACHI H8CPU
CPU I/F
Process (Register, status)
data
SDRAM 128M
SDRAM I/F
DSP
Rate converter Down converter Zoom Over scan 16:9
Peaking
Focus Assist
OSD MIX Safty zone WHITE area Skin area Zebra
Key
Encorder
VF
Internal signal OUT Port (Auto Focus Det.)
Internal video signal
IC46 Camera Process LSI

4.4 OVERALL WIRING DIAGRAM


VTR UNIT
LOADING MOTOR
DRUM MOTOR
CAPSTAN MOTOR
PRMDA PWB
ROTARY ENCODER
SUB DECK
CN70
CN71
CN72
CN73
CN74
CN75
CN16
CN17
PS PWB
CN1
CN29
CN30
CN53
BATTERY
DCI
DC INPUT (6-12V)
DVOUT PWB
JK
AJK
VP
TPA+
TPA-
TPB+
TPB-
GND
AUDIO CH1 OUT
AGND
AUDIO CH2 OUT
CN54
CN19
CN11
LENS
CN3
SD PWB
CN18
CCD UNIT
ISP PWB
CN26
CN27
CN28
MAIN PWB
Board to Board
140P
CN49
CN4
KYE_A
OPE PWB
VTR KEY
PBM PWB
FOCUS, PEAKING, BRIGHT, MONITOR
CN55
USR PWB
USER1/2/3
CN50
MNU PWB
MENU
CN51
SET
STA PWB
STATUS, ND_FILTER
CN52
CN10
SWP PWB
POWER
P SW
MONITOR BACK LIGHT
MONITOR LCD
CN64
MONI BL PWB
CN63
CN62
A
VF LCD
VFDR PWB
CN61
CN66
CN60
VF_IF PWB
CN65
CN23
CN22
FAN
FNC
CN90
MIF PWB
CN34
SHIELD
VJK
CN48
FRL PWB
FOCUS_A, REC
CN8
FTY PWB
CN14
SPEAKER
EAR PWB
CN12
CN47
EARPHONE1
EARPHONE2
+3.3V
B TALLY CTL
AUDIO PWB
AVR PWB
GAIN, AWB REC_SIDE
CH1 LEVEL
CH2 LEVEL
CN45
CN44
MOS PWB
MONITOR SELECT
VTR
DISPLAY
FULL AUTO
CN24
CN43
LINE SEL PWB
CN13
CN42
EJT PWB
CN41
FFC
XLR PWB
MIC_IN1
MIC_IN2
CN9
GAB PWB
AUTO WHITE
AWB
ZEBRA L
ZEBRA H
ZBR PWB
ZEBRA

4.5 ISG SCHEMATIC DIAGRAM



A
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I
J
K
L
M
N
1
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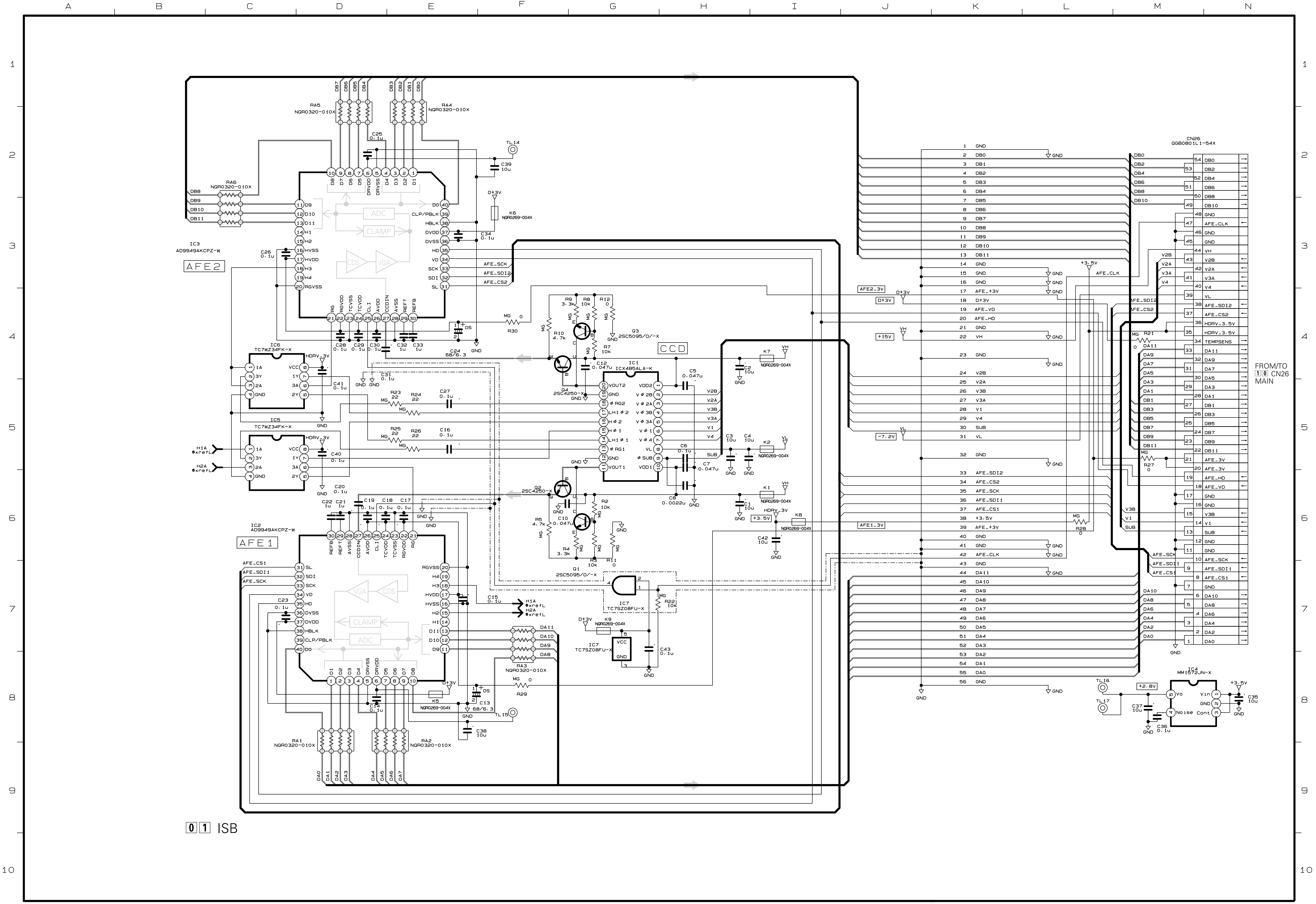
3
4
5
6
7
8
9
10
IC3
AD9949AKCPZ-W
AFE2
IC2
AD9949AKCPZ-W
AFE1
ADC
CLAMP
CDS
VGA
IC1
ICX485ALA-K
CCD
IC5
TC7WZ34FK-X
IC6
TC7WZ34FK-X
IC7
TC7SZ08FU-X
IC4
MM1572JN-X
Q1
2SC5095/O/-X
Q2
2SC4250-X
Q3
2SC5095/O/-X
Q4
2SC4250-X
RA1
RA2
RA3
RA4
RA5
RA6
NQR0320-010X
K1
K2
K5
K6
K7
K8
K9
NQR0269-004X
CN27
QGB0801L1-54X
FROM/TO
10 CN27
MAIN
H1A
H2A
xrefL
TL14
TL15
TL16
TL17
+2.8V
+3.5V
D+3V
+15V
-7.2V
HDRV_3V
AFE2_3V
AFE1_3V
GND
02 ISG

4.6 ISB SCHEMATIC DIAGRAM



A
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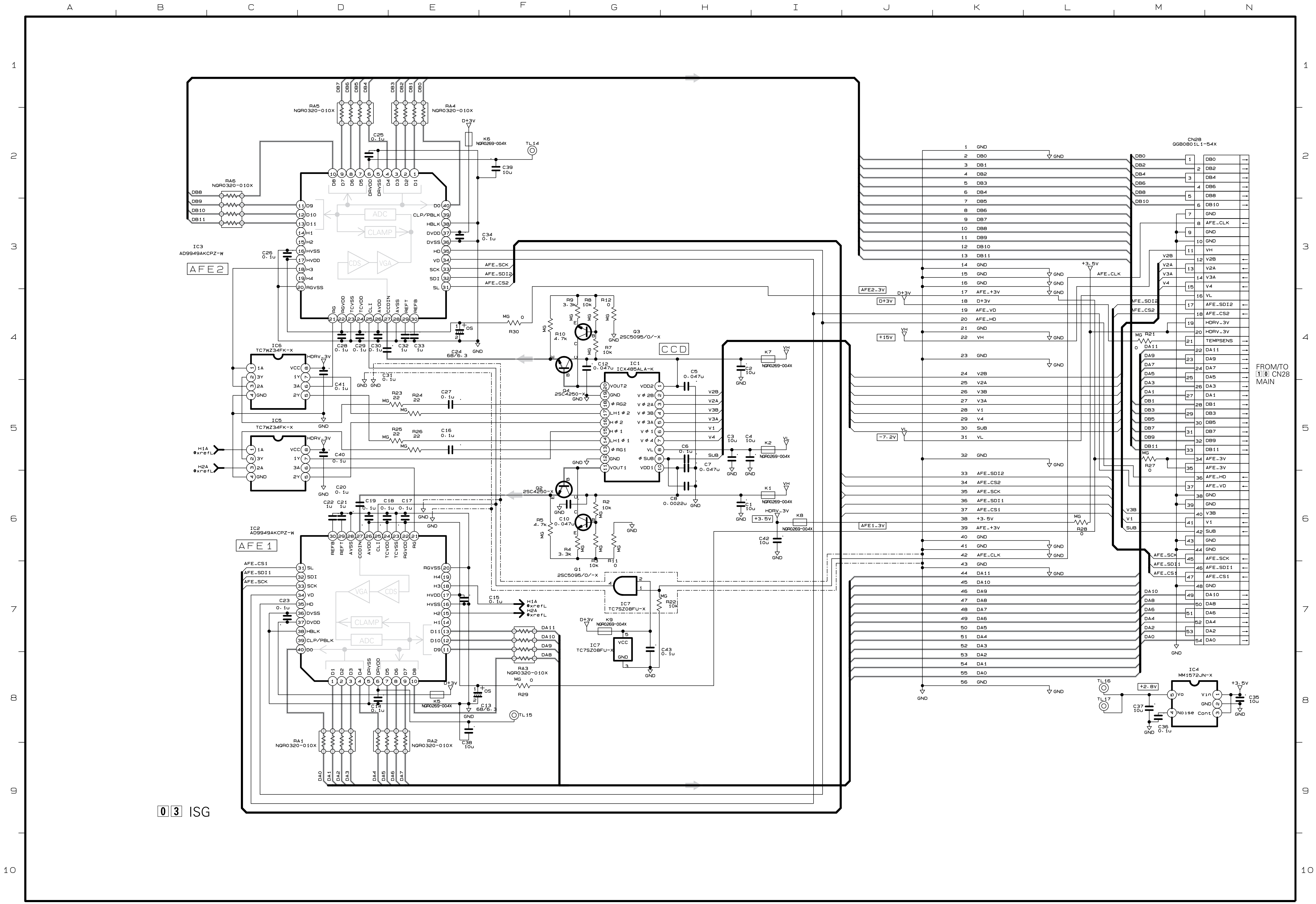
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
RA5
NQR0320-010X
RA4
NQR0320-010X
RA6
NQR0320-010X
IC3
AD9949AKCPZ-W
AFE2
ADC
CLAMP
CDS
VGA
C25
0.1u
TL14
C39
10u
D+3V
K6
NQR0269-004X
C34
0.1u
C26
0.1u
AFE_SCK
AFE_SDI2
AFE_CS2
MG
R30
C28
0.1u
C29
0.1u
C30
0.1u
C32
1u
C33
1u
C24
68/6.3
OS
GND
IC6
TC7WZ34FK-X
HDRV_3V
C41
0.1u
IC5
TC7WZ34FK-X
C40
0.1u
H1A
xrefL
H2A
xrefL
C31
0.1u
R23
22
R24
22
C27
0.1u
R25
22
R26
22
C16
0.1u
R9
3.3k
R8
10k
R12
0
R10
4.7k
Q3
2SC5095/O/-X
R7
10k
C12
0.047u
Q4
2SC4250-X
CCD
IC1
ICX485ALA-K
VOUT2
VDD2
ØRG2
LHIØ2
HØ2
HØ1
LHIØ1
ØRG1
VOUT1
VDD1
VØ2B
VØ2A
VØ3B
VØ3A
VØ1
VØ4
VL
ØSUB
C5
0.047u
K7
NQR0269-004X
VH
C2
10u
V2B
V2A
V3B
V3A
V1
V4
SUB
C3
10u
C4
10u
K2
NQR0269-004X
VL
C6
0.1u
C7
0.047u
C8
0.0022u
Q2
2SC4250-X
R2
10k
C10
0.047u
R5
4.7k
R4
3.3k
R3
10k
R11
0
Q1
2SC5095/O/-X
K1
NQR0269-004X
C1
10u
HDRV_3V
K8
NQR0269-004X
+3.5V
C42
10u
IC7
TC7SZ08FU-X
R22
10k
D+3V
K9
NQR0269-004X
C43
0.1u
IC2
AD9949AKCPZ-W
AFE1
AFE_CS1
AFE_SDI1
AFE_SCK
C22
1u
C21
1u
C19
0.1u
C18
0.1u
C17
0.1u
C20
0.1u
C23
0.1u
C15
0.1u
RA3
NQR0320-010X
R29
K5
NQR0269-004X
C14
0.1u
C13
68/6.3
TL15
C38
10u
RA1
NQR0320-010X
RA2
NQR0320-010X
AFE2_3V
D+3V
+15V
-7.2V
AFE1_3V
+3.5V
R21
R27
R28
1 GND
2 DB0
3 DB1
4 DB2
5 DB3
6 DB4
7 DB5
8 DB6
9 DB7
10 DB8
11 DB9
12 DB10
13 DB11
14 GND
15 GND
16 GND
17 AFE_+3V
18 D+3V
19 AFE_VD
20 AFE_HD
21 GND
22 VH
23 GND
24 V2B
25 V2A
26 V3B
27 V3A
28 V1
29 V4
30 SUB
31 VL
32 GND
33 AFE_SDI2
34 AFE_CS2
35 AFE_SCK
36 AFE_SDI1
37 AFE_CS1
38 +3.5V
39 AFE_+3V
40 GND
41 GND
42 AFE_CLK
43 GND
44 DA11
45 DA10
46 DA9
47 DA8
48 DA7
49 DA6
50 DA5
51 DA4
52 DA3
53 DA2
54 DA1
55 DA0
56 GND
CN26
QGB0801L1-54X
54 DB0
53 DB2
52 DB4
51 DB6
50 DB8
49 DB10
48 GND
47 AFE_CLK
46 GND
45 GND
44 VH
43 V2B
42 V2A
41 V3A
40 V4
39 VL
38 AFE_SDI2
37 AFE_CS2
36 HDRV_3.5V
35 HDRV_3.5V
34 TEMPSENS
33 DA11
32 DA9
31 DA7
30 DA5
29 DA3
28 DA1
27 DB1
26 DB3
25 DB5
24 DB7
23 DB9
22 DB11
21 AFE_3V
20 AFE_3V
19 AFE_HD
18 AFE_VD
17 GND
16 GND
15 V3B
14 V1
13 SUB
12 GND
11 GND
10 AFE_SCK
9 AFE_SDI1
8 AFE_CS1
7 GND
6 DA10
5 DA8
4 DA6
3 DA4
2 DA2
1 DA0
FROM/TO
10 CN26
MAIN
IC4
MM1572JN-X
Vo
Vin
Noise
GND
Cont
+2.8V
+3.5V
C35
10u
C37
10u
C36
0.1u
TL16
TL17
01 ISB

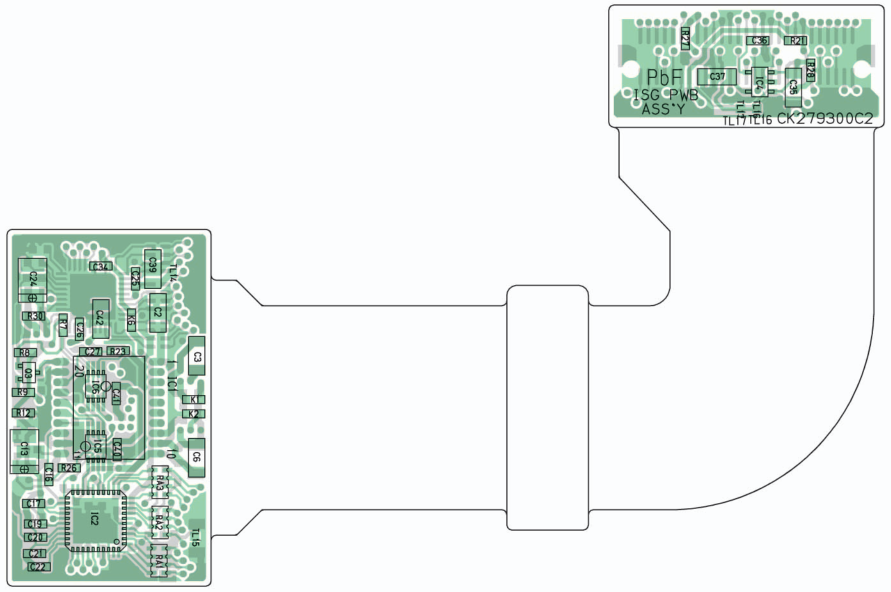
4.7 ISR SCHEMATIC DIAGRAM


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
IC3
AD9949AKCPZ-W
AFE2
IC2
AD9949AKCPZ-W
AFE1
IC1
ICX485ALA-K
CCD
IC5
TC7WZ34FK-X
IC6
TC7WZ34FK-X
IC7
TC7SZ08FU-X
IC4
MM1572JN-X
Q1
2SC5095/0/-X
Q2
2SC4250-X
Q3
2SC5095/0/-X
Q4
2SC4250-X
RA1
NQR0320-010X
RA2
NQR0320-010X
RA3
NQR0320-010X
RA4
NQR0320-010X
RA5
NQR0320-010X
RA6
NQR0320-010X
K1
K2
K5
K6
K7
K8
K9
NQR0269-004X
CN28
QGB0801L1-54X
FROM/TO
10 CN28
MAIN
ADC
CLAMP
CDS
VGA
H1A
H2A
xrefL
TL14
TL15
TL16
TL17
AFE2_3V
AFE1_3V
D+3V
+15V
-7.2V
+3.5V
+2.8V
VH
VL
GND
1 GND
2 DB0
3 DB1
4 DB2
5 DB3
6 DB4
7 DB5
8 DB6
9 DB7
10 DB8
11 DB9
12 DB10
13 DB11
14 GND
15 GND
16 GND
17 AFE_+3V
18 D+3V
19 AFE_VD
20 AFE_HD
21 GND
22 VH
23 GND
24 V2B
25 V2A
26 V3B
27 V3A
28 V1
29 V4
30 SUB
31 VL
32 GND
33 AFE_SDI2
34 AFE_CS2
35 AFE_SCK
36 AFE_SDI1
37 AFE_CS1
38 +3.5V
39 AFE_+3V
40 GND
41 GND
42 AFE_CLK
43 GND
44 DA11
45 DA10
46 DA9
47 DA8
48 DA7
49 DA6
50 DA5
51 DA4
52 DA3
53 DA2
54 DA1
55 DA0
56 GND
03 ISG

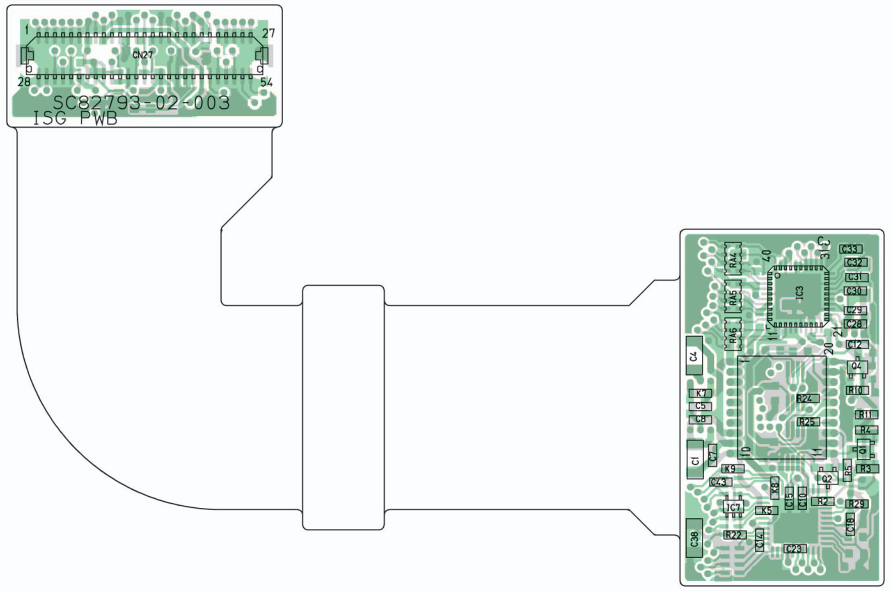
4.8 ISG, ISB, ISR CIRCUIT BOARDS

– ISG –

– SIDE A –

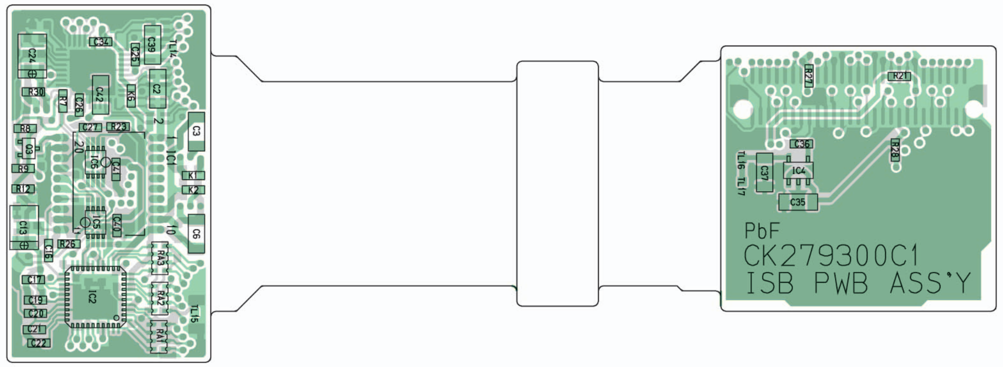

PbF
ISG PWB
ASS'Y
CK279300C2

– SIDE B –

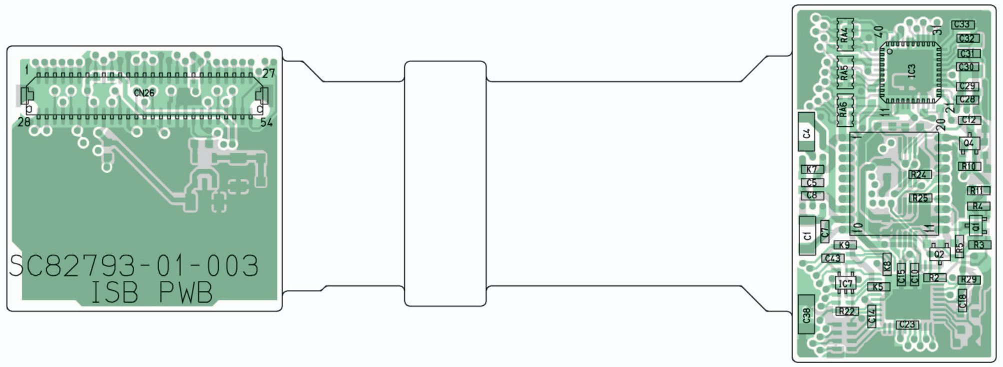

SC82793-02-003
ISG PWB

– ISB –

– SIDE A –

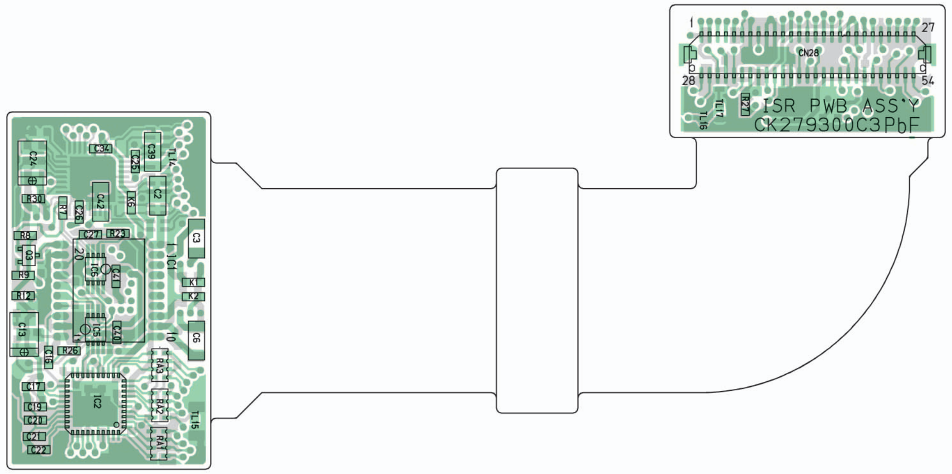

PbF
CK279300C1
ISB PWB ASS'Y

– SIDE B –

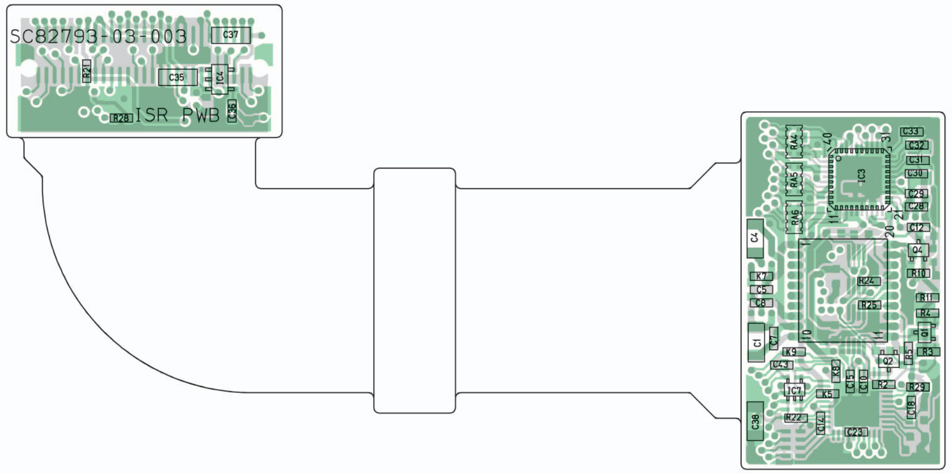

SC82793-01-003
ISB PWB

– ISR –

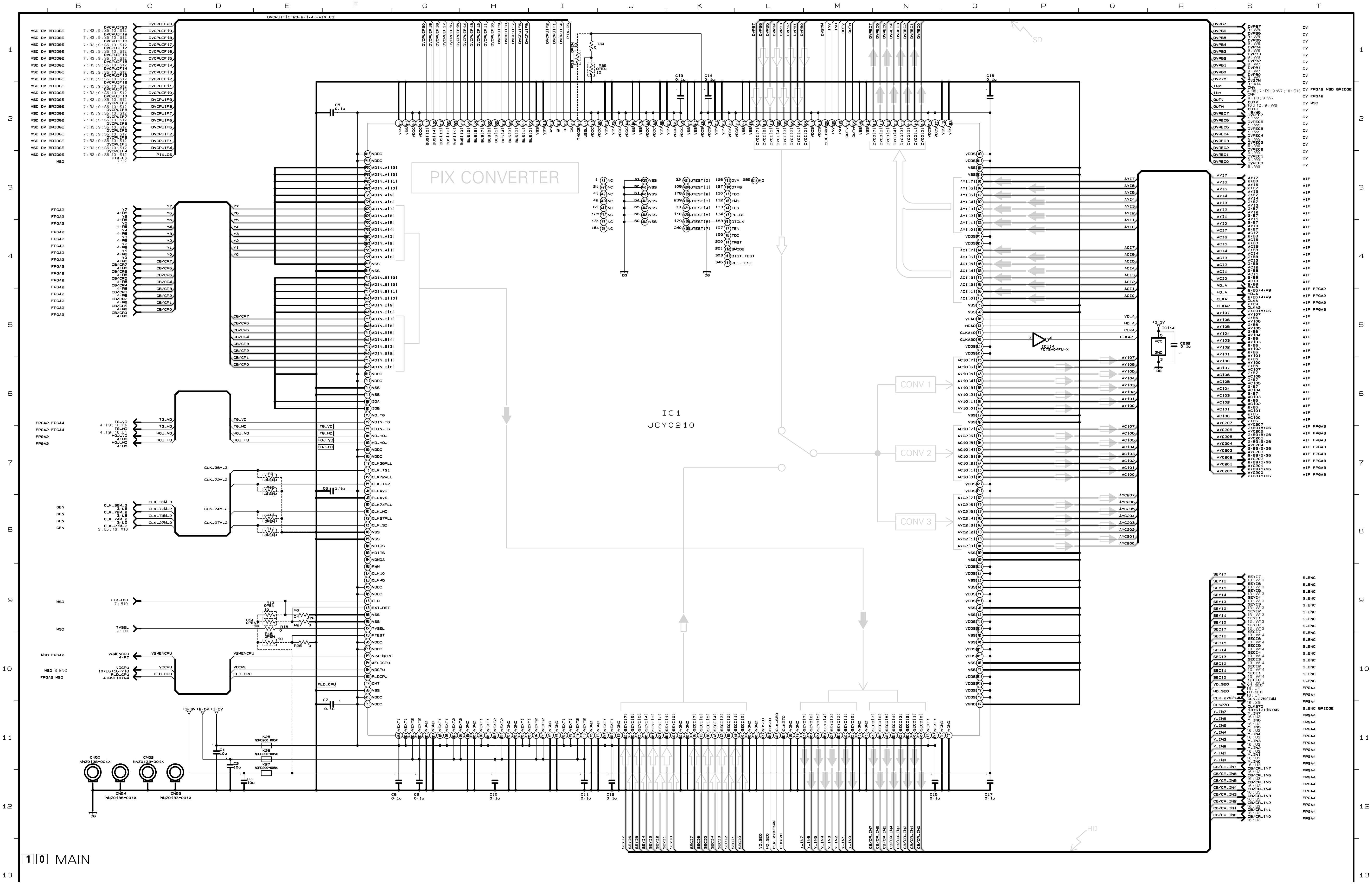
– SIDE A –


ISR PWB ASS'Y
CK279300C3PbF

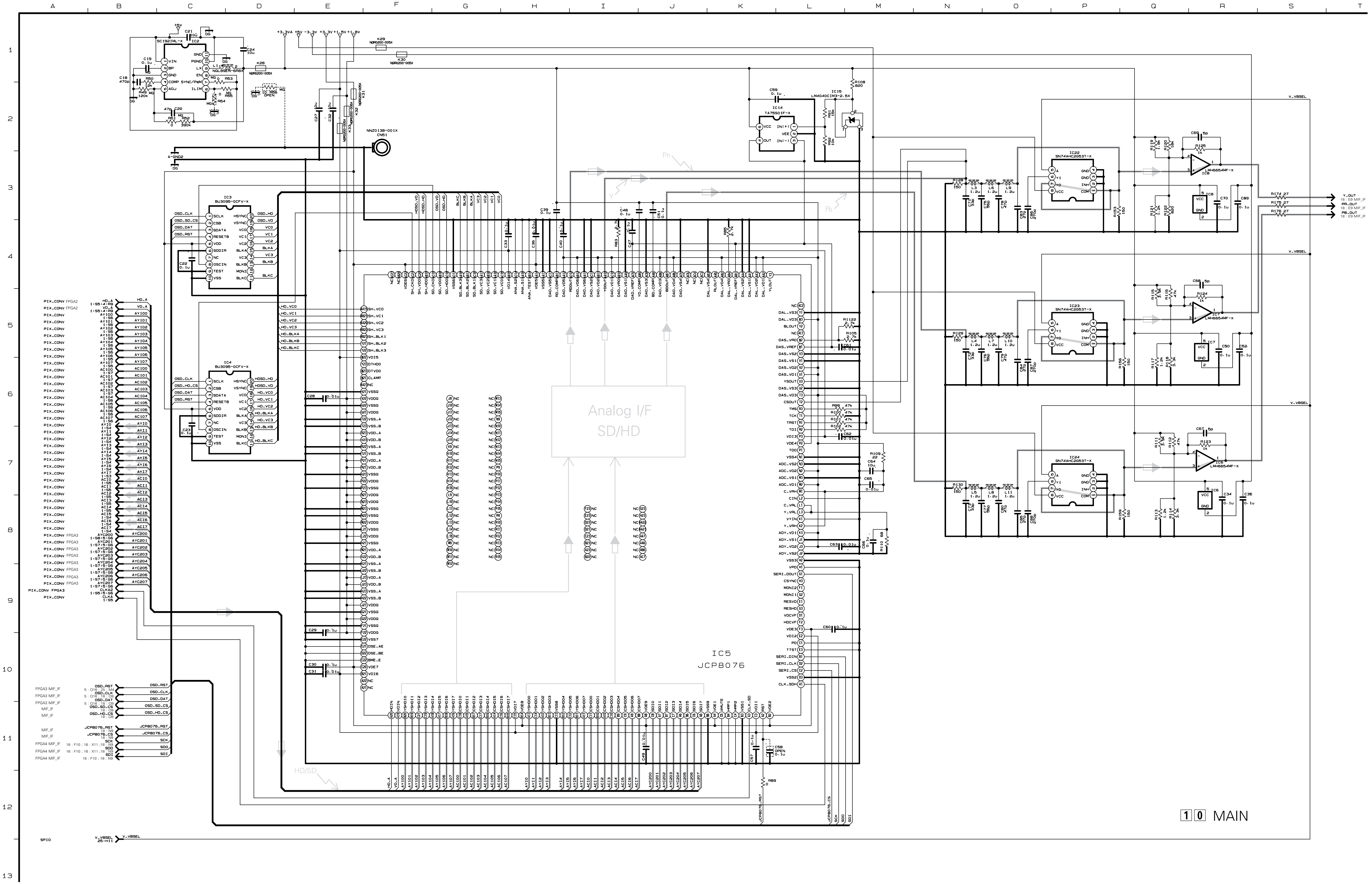
– SIDE B –


SC82793-03-003
ISR PWB

4.9 MAIN SCHEMATIC DIAGRAMS (1/18) (Pixel CONV)


PIX CONVERTER
IC1
JCY0210
CONV 1
CONV 2
CONV 3
IC114
TC7SH04FU-X
SD
HD
CN50 NNZ0138-001X
CN52 NNZ0133-001X
CN54 NNZ0138-001X
CN53 NNZ0133-001X
K25 NQR0200-005X
K26 NQR0200-005X
K27 NQR0200-005X
+3.3V +2.5V +1.5V
DVCPUIF[5-20-2-1-4]-PIX_CS
MSD DV BRIDGE
FPGA2
FPGA4
GEN
MSD
S_ENC
AIF
AIF FPGA2
AIF FPGA3
DV
DG
10 MAIN

— MAIN SCHEMATIC DIAGRAMS (2/18) — (Analog I/F)



A
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O
P
Q
R
S
T
1
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4
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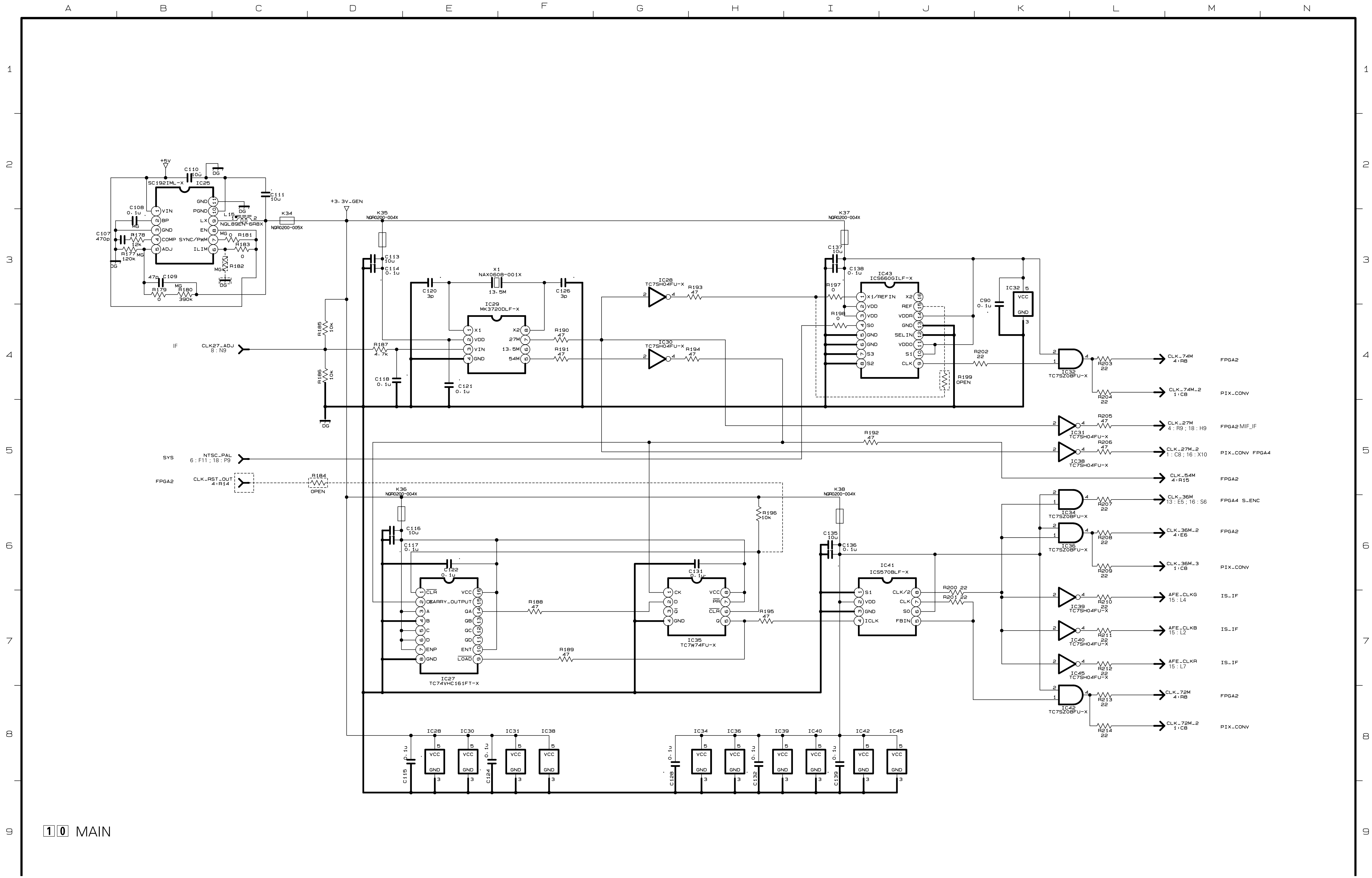
6
7
8
9
10
11
12
13
SC1921ML-X
IC2
NQL89EN-6R8X
K28
K29
K30
NQR0200-005X
NNZ0138-001X
CN51
A-GND2
DG
IC3
BU3095-0CFV-X
IC4
BU3095-0CFV-X
IC14
TA75S01F-X
IC15
LM4040CIM3-2.5X
IC22
SN74AHC2G53T-X
IC23
SN74AHC2G53T-X
IC24
SN74AHC2G53T-X
IC8
LMH6654MF-X
IC7
LMH6654MF-X
IC6
LMH6654MF-X
V_VBSEL
Y_OUT
PR_OUT
PB_OUT
18 : E9 MIF_IF
Analog I/F
SD/HD
IC5
JCP8076
HD/SD
PR
PB
Y
PIX_CONV
FPGA2
FPGA3
FPGA3 MIF_IF
FPGA4 MIF_IF
MIF_IF
OSD_RST
OSD_CLK
OSD_DAT
OSD_SD_CS
OSD_HD_CS
JCP8076_RST
JCP8076_CS
SCK
SDO
SDI
SPIO
CLKA
HD_A
VD_A
1 0 MAIN

— MAIN SCHEMATIC DIAGRAMS (3/18) — (GEN)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K
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N
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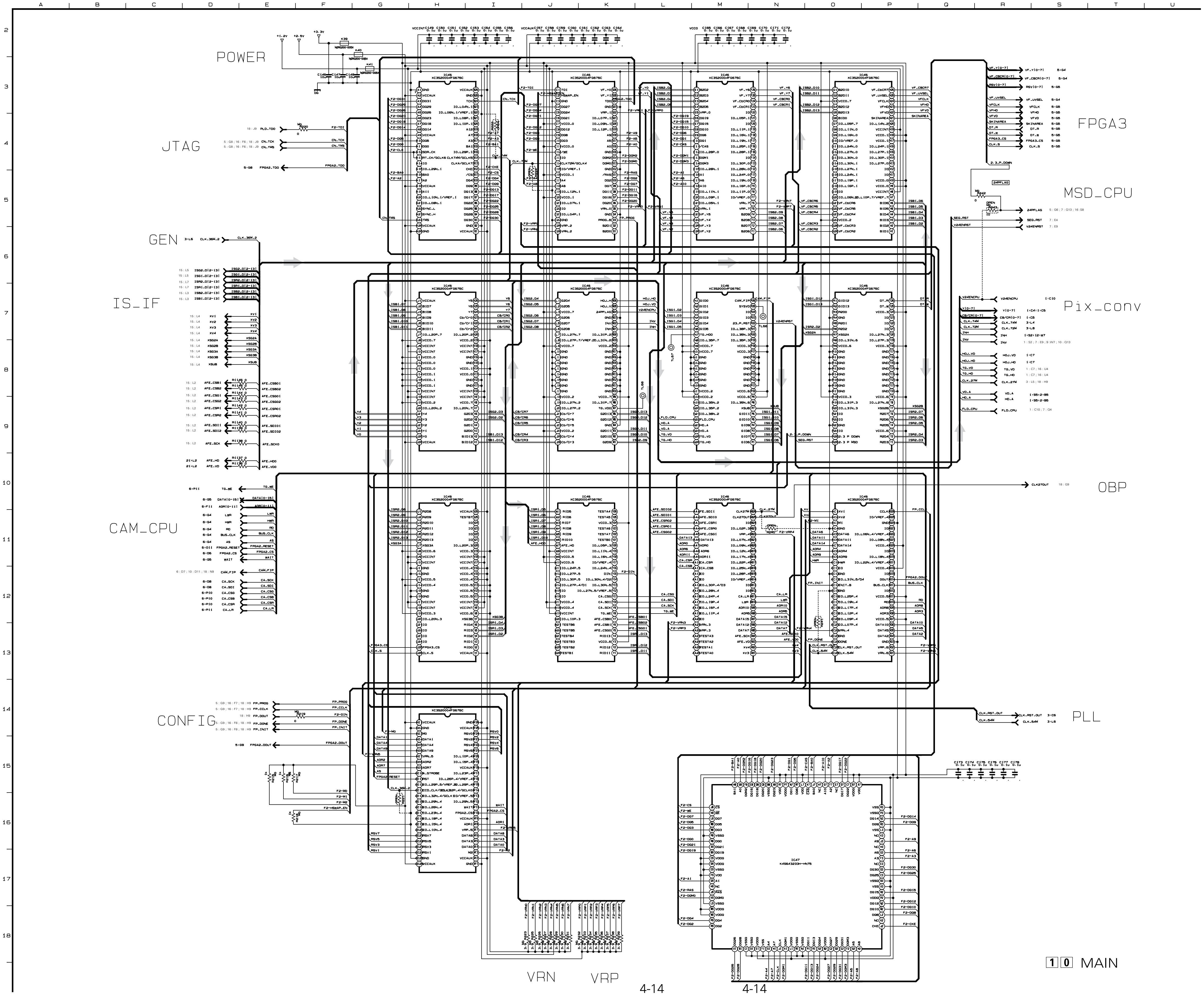
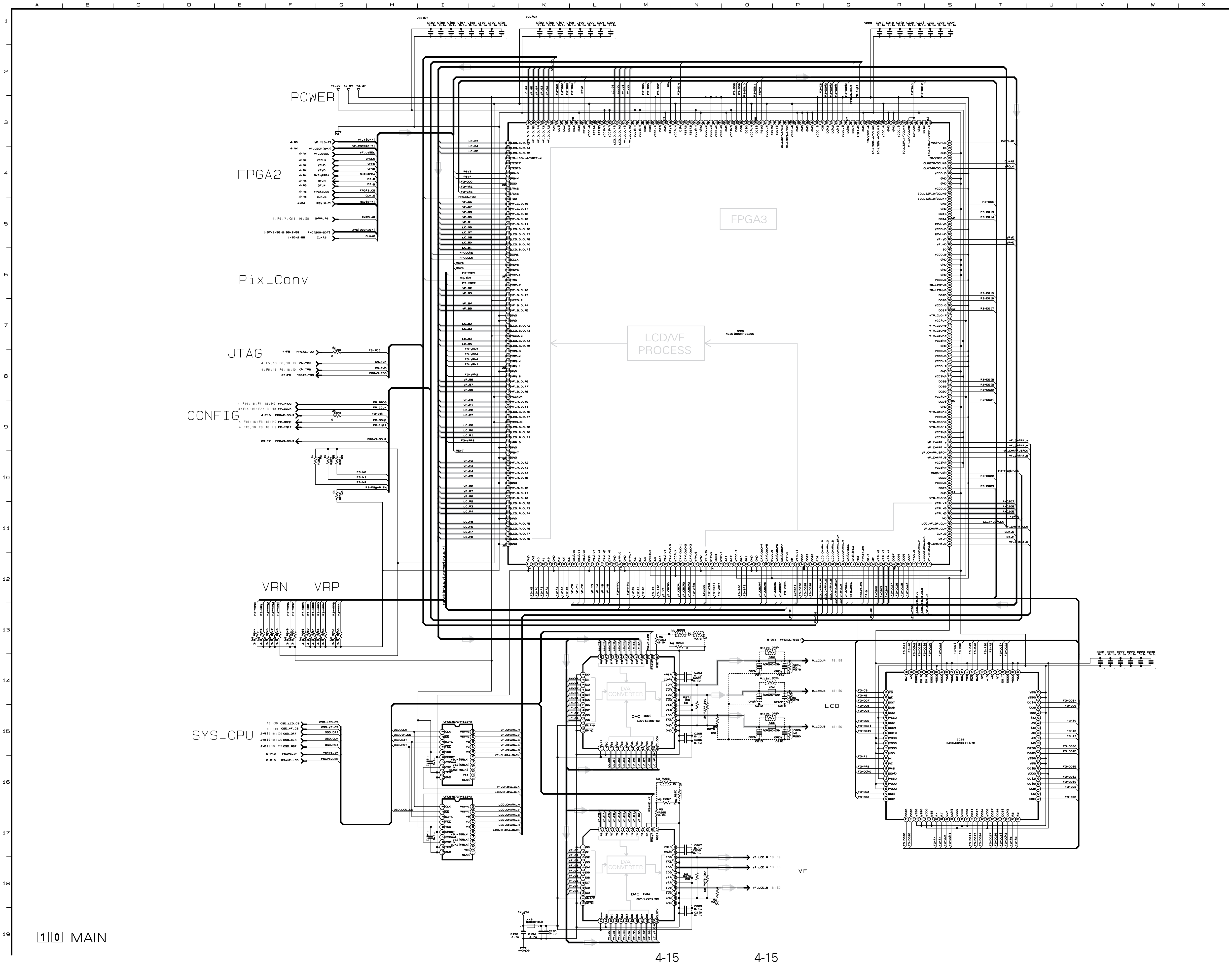
3
4
5
6
7
8
9
+5V
C110
10u
DG
SC192IML-X
IC25
C111
10u
GND 11
PGND 10
LX 9
EN 8
SYNC/PWM 7
ILIM 6
1 VIN
2 BP
3 GND
4 COMP
5 ADJ
C108
0.1u
MG
C107
470p
R178
12k
R177
120k
MG
DG
L15
NQL89EN-6R8X
K34
NQR0200-005X
R181
0
R183
0
R182
MG
47p
C109
R179
0
R180
390k
+3.3V_GEN
K35
NQR0200-004X
C113
10u
C114
0.1u
R185
10k
R186
10k
IF
CLK27_ADJ
8 : N9
R187
4.7k
C118
0.1u
C120
3p
X1
NAX0608-001X
13.5M
C126
3p
IC29
MK3720DLF-X
X1
VDD
VIN
GND
X2
27M
13.5M
54M
C121
0.1u
R190
47
R191
47
IC28
TC7SH04FU-X
R193
47
IC30
TC7SH04FU-X
R194
47
K37
NQR0200-004X
C137
10u
C138
0.1u
IC43
ICS660GILF-X
R197
0
R198
0
X1/REFIN
VDD
VDD
S0
GND
GND
S3
S2
X2
REF
VDDR
GND
SELIN
VDDO
S1
CLK
R199
OPEN
C90
0.1u
IC32
VCC
GND
R202
22
IC32
TC7SZ08FU-X
R203
22
CLK_74M
4 : R8
FPGA2
R204
22
CLK_74M_2
1 : C8
PIX_CONV
R205
47
IC31
TC7SH04FU-X
CLK_27M
4 : R9 ; 18 : H9
FPGA2 MIF_IF
R192
47
R206
47
IC38
TC7SH04FU-X
CLK_27M_2
1 : C8 ; 16 : X10
PIX_CONV FPGA4
CLK_54M
4 : R15
FPGA2
SYS
NTSC_PAL
6 : F11 ; 18 : P9
FPGA2
CLK_RST_OUT
4 : R14
R184
OPEN
K36
NQR0200-004X
R196
10k
K38
NQR0200-004X
IC34
TC7SZ08FU-X
R207
22
CLK_36M
13 : E5 ; 16 : S6
FPGA4 S_ENC
IC36
TC7SZ08FU-X
R208
22
CLK_36M_2
4 : E6
FPGA2
R209
22
CLK_36M_3
1 : C8
PIX_CONV
C116
10u
C117
0.1u
C122
0.1u
CLR
CARRY_OUTPUT
A
B
C
D
ENP
GND
VCC
QA
QB
QC
QD
ENT
LOAD
IC27
TC74VHC161FT-X
R188
47
R189
47
C131
0.1u
CK
D
Q
GND
VCC
PR
CLR
Q
IC35
TC7W74FU-X
R195
47
C135
10u
C136
0.1u
IC41
ICS570BLF-X
S1
VDD
GND
ICLK
CLK/2
CLK
S0
FBIN
R200 22
R201 22
IC39
TC7SH04FU-X
R210
22
AFE_CLKG
15 : L4
IS_IF
IC40
TC7SH04FU-X
R211
22
AFE_CLKB
15 : L2
IS_IF
IC45
TC7SH04FU-X
R212
22
AFE_CLKR
15 : L7
IS_IF
IC42
TC7SZ08FU-X
R213
22
CLK_72M
4 : R8
FPGA2
R214
22
CLK_72M_2
1 : C8
PIX_CONV
IC28
IC30
IC31
IC38
IC34
IC36
IC39
IC40
IC42
IC45
VCC
GND
0.1u
C115
C124
C128
C132
C139
10 MAIN

– MAIN SCHEMATIC DIAGRAMS (4/18) – (CAM FPGA-2)


POWER
JTAG
GEN
IS_IF
CAM_CPU
CONFIG
FPGA3
MSD_CPU
Pix_conv
OBP
PLL
VRN
VRP
IC45
XC3S2000-4FG676C
IC47
K4S643232H-HN75
1 0 MAIN

— MAIN SCHEMATIC DIAGRAMS (5/18) — (VF FPGA-3)


A
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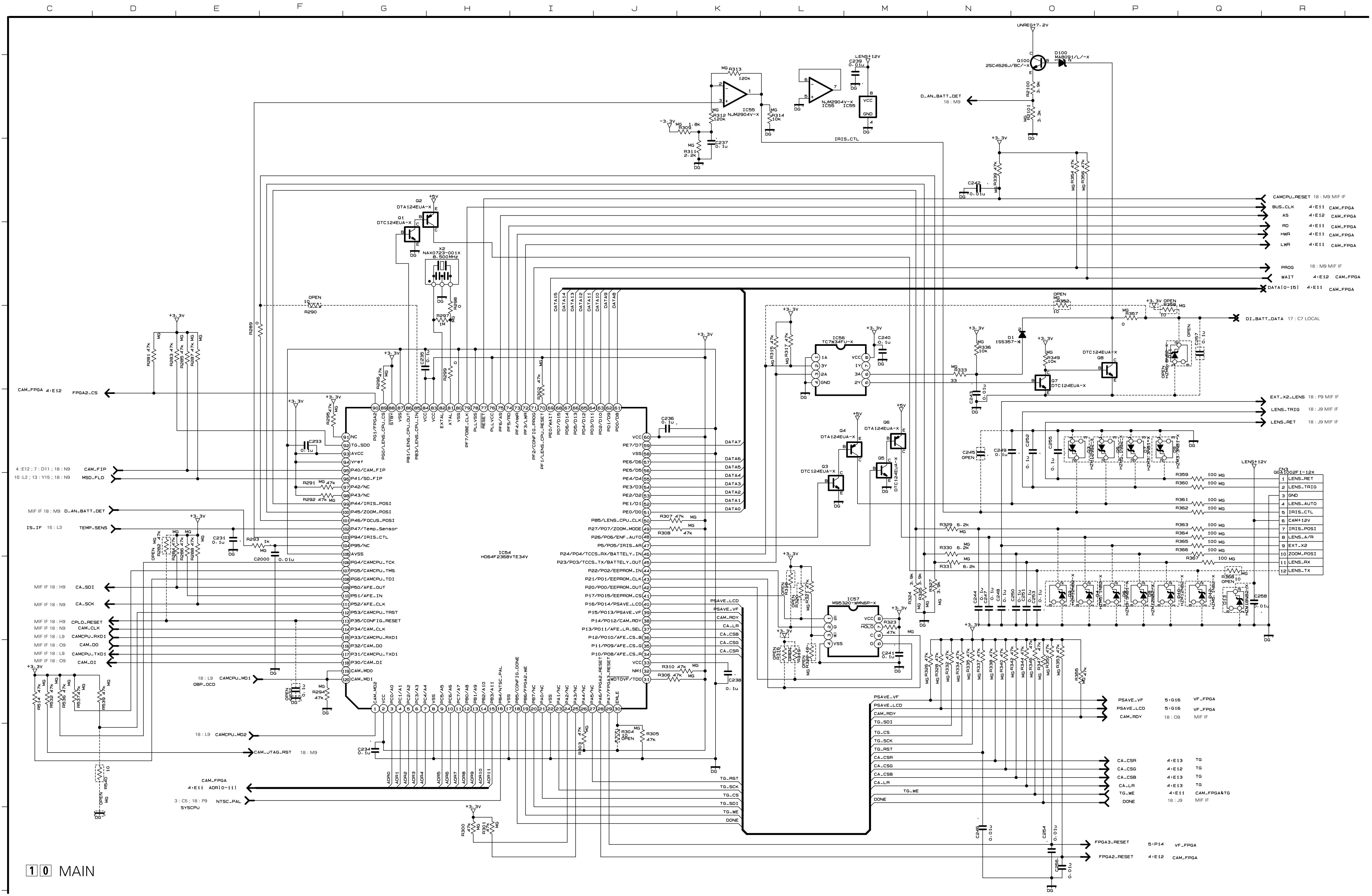
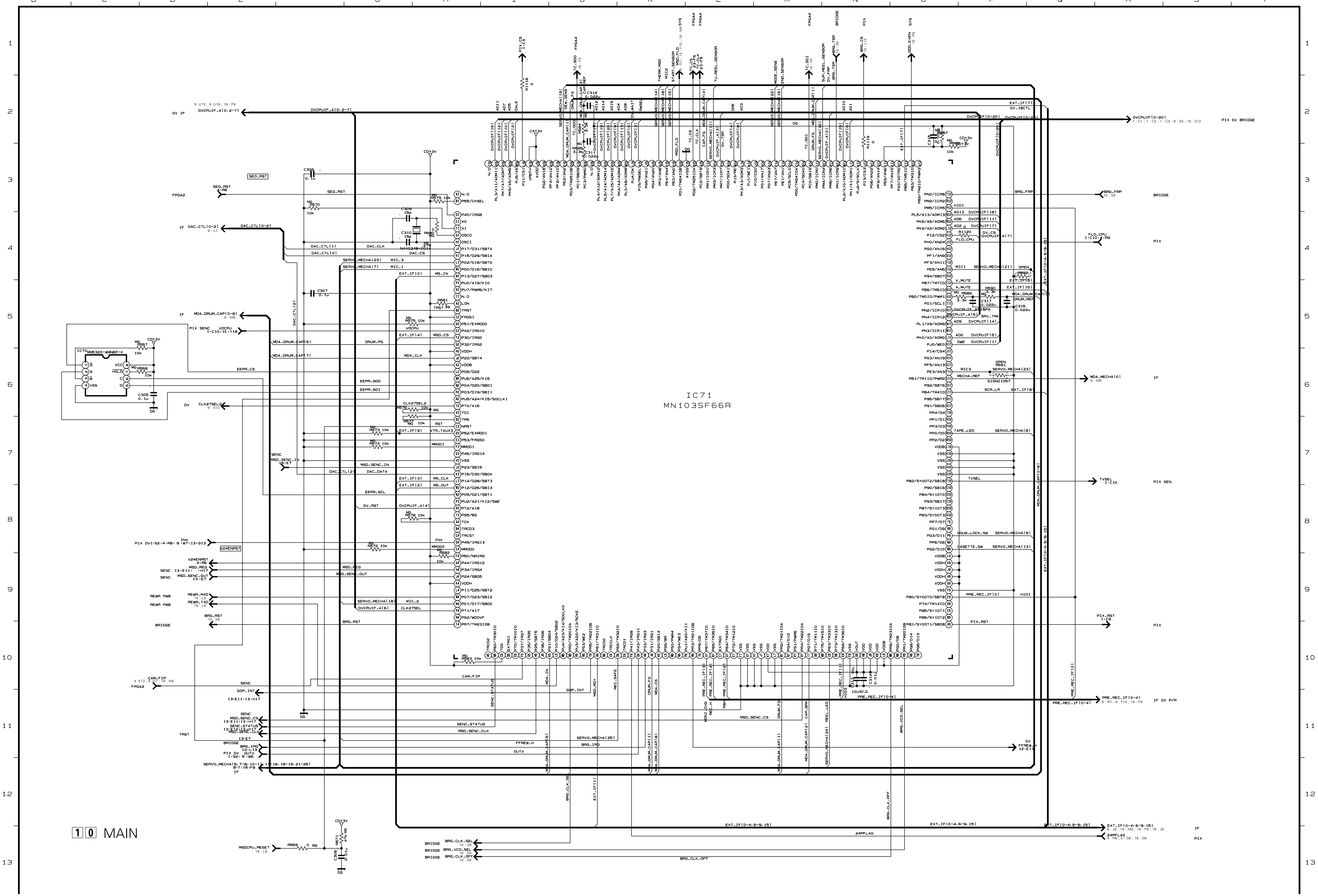
O
P
Q
R
S
T
U
V
W
X
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
POWER
FPGA2
Pix_Conv
JTAG
CONFIG
VRN
VRP
SYS_CPU
FPGA3
LCD/VF PROCESS
IC50
XC3S10004FG320C
D/A CONVERTER
DAC IC51
ADV7123KST50
DAC IC52
ADV7123KST50
LCD
VF
IC53
K4S643233H-HN75
1 0 MAIN

– MAIN SCHEMATIC DIAGRAMS (6/18) – (CAM CPU)

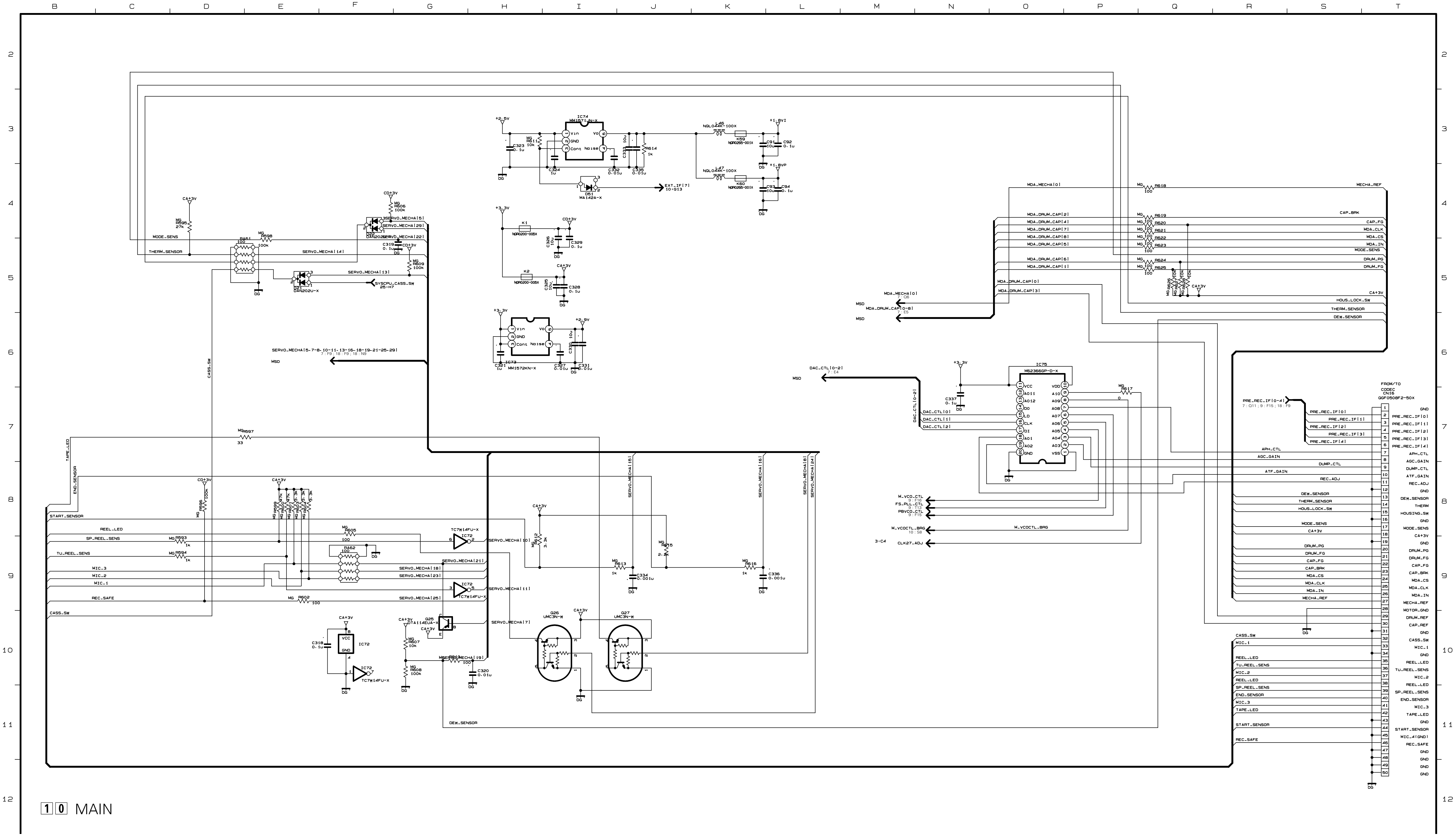

IC54
HD64F2368VTE34V
IC55
NJM2904V-X
IC56
TC7W34FU-X
IC57
M95320-WMN6P-X
X2
NAX0723-001X
8.500MHz
Q1
DTC124EUA-X
Q2
DTA124EUA-X
Q100
2SC4626J/BC/-X
D100
MA8091/L/-X
CN3
QGA1002F1-12X
UNREG+7.2V
LENS+12V
+3.3V
+5V
CAMCPU_RESET
BUS_CLK
AS
RD
HWR
LWR
PROG
WAIT
DATA[0-15]
DI_BATT_DATA
EXT_X2_LENS
LENS_TRIG
LENS_RET
D_AN_BATT_DET
IRIS_CTL
FPGA2_CS
CAM_FIP
MSD_FLD
TEMP_SENS
CA_SDI
CA_SCK
CPLD_RESET
CAM_CLK
CAMCPU_RXD1
CAM_DO
CAMCPU_TXD1
CAM_DI
CAMCPU_MD1
CAMCPU_MD2
CAM_JTAG_RST
ADR[0-11]
NTSC_PAL
PSAVE_VF
PSAVE_LCD
CAM_RDY
CA_CSR
CA_CSG
CA_CSB
CA_LR
TG_WE
DONE
FPGA3_RESET
FPGA2_RESET
LENS_RET
LENS_TRIG
GND
LENS_AUTO
IRIS_CTL
CAM+12V
IRIS_POSI
LENS_A/R
EXT_X2
ZOOM_POSI
LENS_RX
LENS_TX

10 MAIN

– MAIN SCHEMATIC DIAGRAMS (7/18) – (MSD CPU)


IC71
MN103SF66R
IC70 M95320-WMN6P-X
DVCPUIF_A[0-2-7]
DVCPUIF[0-20]
DAC_CTL[0-2]
MDA_DRUM_CAP[0-8]
VDCPU
CLK27SEL2
SEQ_RST
BRG_FRP
FLD_CPU
MDA_MECHA[0]
TVSEL
PIX_RST
PRE_REC_IF[0-4]
EXT_IF[0-4-6-9-15]
24PFLAG
BRG_CLK_SEL
BRG_VCO_SEL
BRG_CLK_OFF
MSDCPU_RESET
SERVO_MECHA[5-7-8-10-11-13-16-18-19-21-25]
CAM_FIP
V24ENRST
MSD_REG
MSD_SENC_OUT
REWR_RXD
REWR_TXD
BRG_RST
PIX DV BRIDGE
PIX GEN
IF DV P/R
10 MAIN

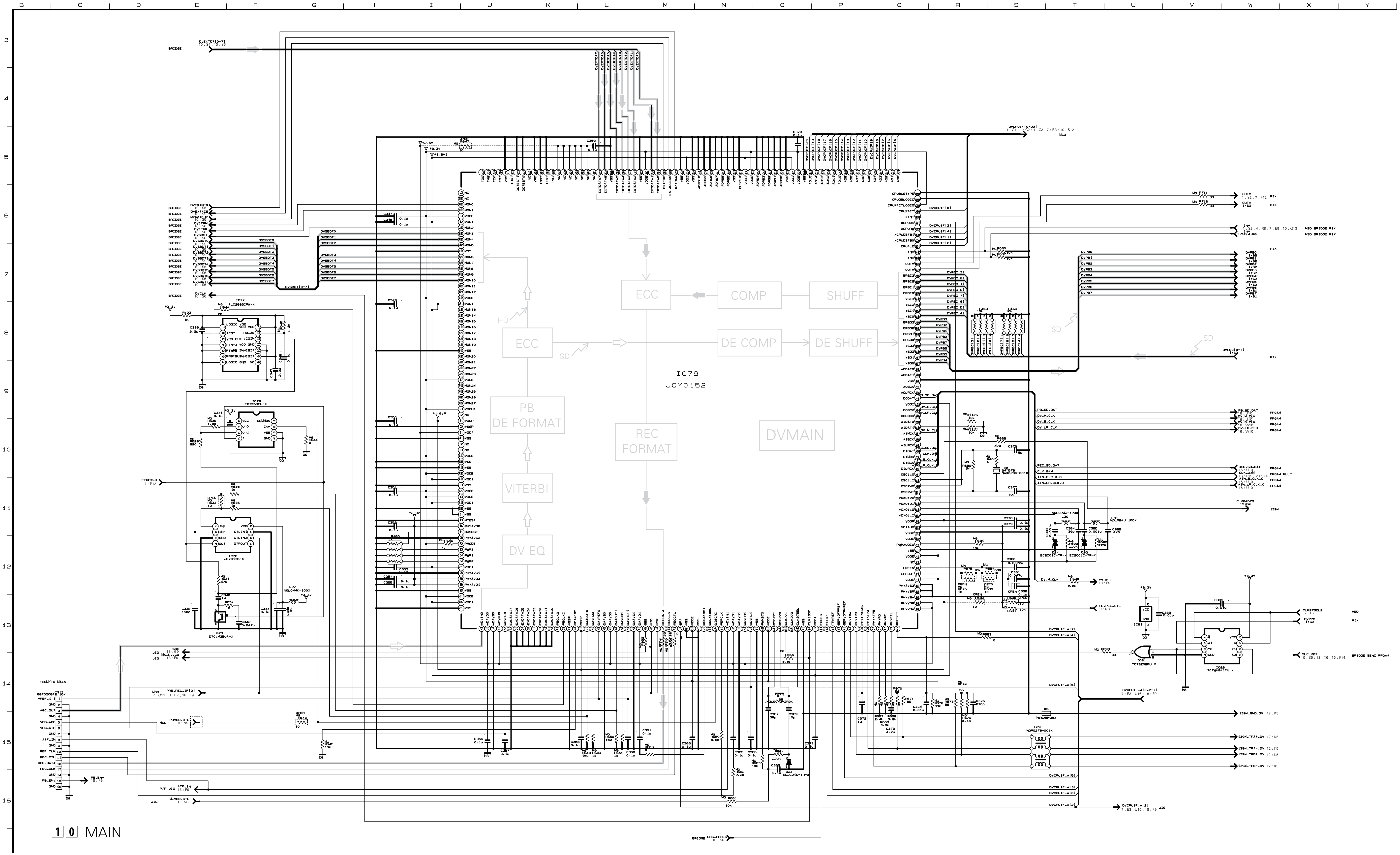
– MAIN SCHEMATIC DIAGRAMS (8/18) – (I/F)



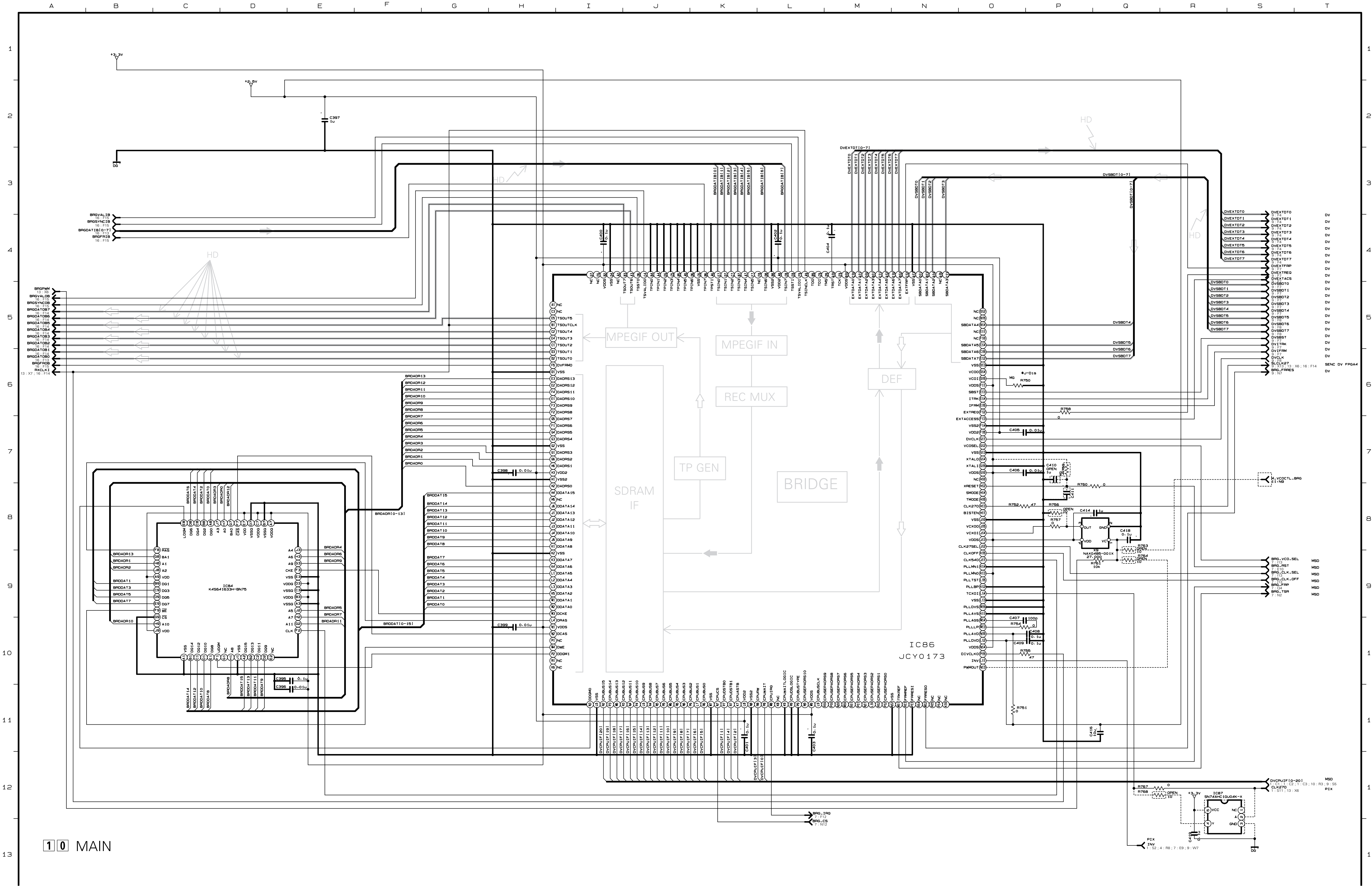
IC74 MM1571JN-X
IC73 MM1572KN-X
IC75 M62366GP-D-X
IC72 TC7W14FU-X
Q25 DTA114EUA-X
Q26 UMC3N-W
Q27 UMC3N-W
D61 MA142A-X
D62 DAN202U-X
D63 DAN202U-X
EXT_IF[7] 10:G13
SYSCPU_CASS_SW 25:H7
SERVO_MECHA[5-7-8-10-11-13-16-18-19-21-25-29]
DAC_CTL[0-2]
MDA_MECHA[0]
MDA_DRUM_CAP[0-8]
PRE_REC_IF[0-4]
M_VCO_CTL
FS_PLL_CTL
PBVCO_CTL
M_VCOCTL_BRG
CLK27_ADJ
FROM/TO CODEC CN16 GGF0508F2-50X
1 GND
2 PRE_REC_IF[0]
3 PRE_REC_IF[1]
4 PRE_REC_IF[2]
5 PRE_REC_IF[3]
6 PRE_REC_IF[4]
7 APH_CTL
8 AGC_GAIN
9 DUMP_CTL
10 ATF_GAIN
11 REC_ADJ
12 GND
13 DEW_SENSOR
14 THERM
15 HOUSING_SW
16 GND
17 MODE_SENS
18 CA+3V
19 GND
20 DRUM_PG
21 DRUM_FG
22 CAP_FG
23 CAP_BRK
24 MDA_CS
25 MDA_CLK
26 MDA_IN
27 MECHA_REF
28 MOTOR_GND
29 DRUM_REF
30 CAP_REF
31 GND
32 CASS_SW
33 MIC_1
34 GND
35 REEL_LED
36 TU_REEL_SENS
37 MIC_2
38 REEL_LED
39 SP_REEL_SENS
40 END_SENSOR
41 MIC_3
42 TAPE_LED
43 GND
44 START_SENSOR
45 MIC_4(GND)
46 REC_SAFE
47 GND
48 GND
49 GND
50 GND

1 0 MAIN

— MAIN SCHEMATIC DIAGRAMS (9/18) — (DV MAIN)


IC79
JCY0152
DVMAIN
ECC
COMP
SHUFF
DE COMP
DE SHUFF
PB
DE FORMAT
REC
FORMAT
VITERBI
DV EQ
HD
SD
IC77
TLC2933IPW-X
IC78
TC7W53FU-X
IC75
JCY0136-X
Q28
DTC143EUA-X
IC81
TC7SZ02FU-X
IC82
TC7WH241FU-X
L29
NQR0276-001X
FROM/TO MAIN
BRIDGE
MSD
JIG
FPGA4
PIX
1394
10 MAIN

– MAIN SHEMATIC DIAGRAMS (10/18) – (BRIGE)


A
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1
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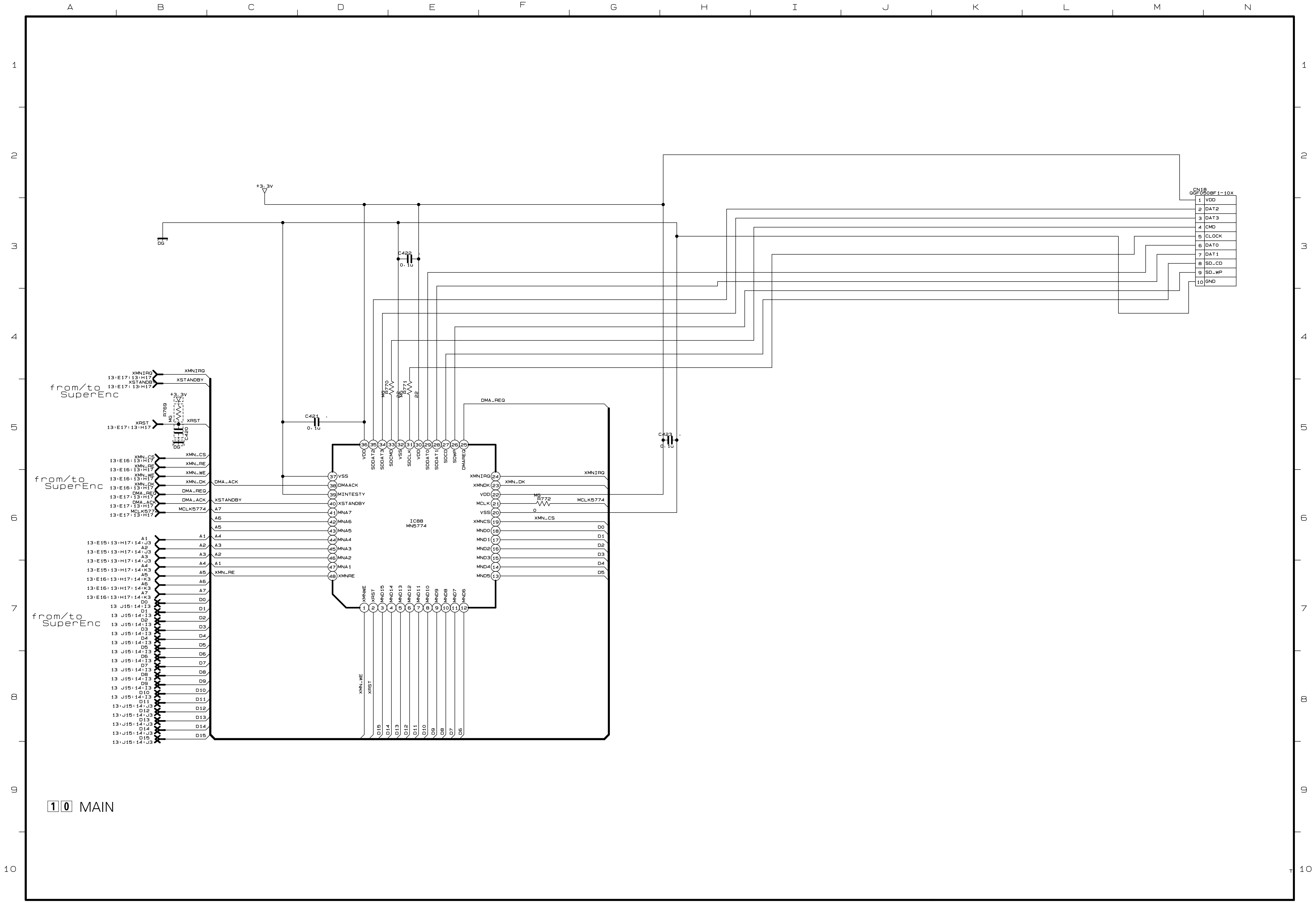
7
8
9
10
11
12
13
+3.3V
+2.5V
C397
1u
DG
HD
BRGVALIB
BRGSYNCIB
BRGDATIB[0-7]
BRGFRIB
BRGPWM
BRGVALOB
BRGSYNCOB
BRGDATOB7
BRGDATOB6
BRGDATOB5
BRGDATOB4
BRGDATOB3
BRGDATOB2
BRGDATOB1
BRGDATOB0
BRGFROB
RXCLK1
DVEXTOT[0-7]
DVSBOT[0-7]
DVEXTOT0
DVEXTOT1
DVEXTOT2
DVEXTOT3
DVEXTOT4
DVEXTOT5
DVEXTOT6
DVEXTOT7
DVEXTFRP
DVEXTREQ
DVEXTACS
DVSBOT0
DVSBOT1
DVSBOT2
DVSBOT3
DVSBOT4
DVSBOT5
DVSBOT6
DVSBOT7
DVSBST
DVITRK
DVIFRM
DVCLK
SLCLK27
BRG_FRRES
SENC DV FPGA4
DV
MPEGIF OUT
MPEGIF IN
DEF
REC MUX
TP GEN
SDRAM IF
BRIDGE
IC86
JCY0173
IC84
K4S641633H-BN75
BRDADR[0-13]
BRDDAT[0-15]
C398 0.01u
C399 0.01u
C395 0.1u
C396 0.01u
C400 0.1u
C402 0.1u
C404 0.1u
C401 0.1u
C403 0.1u
C405 0.01u
C406 0.01u
C407 100p
C408 0.1u
C409 0.1u
C410 OPEN
C414 1u
C416 10u
C418 0.1u
R750
R751
R752 47
R754
R755 47
R756
R757
R758 0
R760 0
R761 10k
R763 10
R764 10
R767 0
R768 OPEN
X3
NAX0485-001X
27.000
M_VCOCTL_BRG
BRG_VCO_SEL
BRG_RST
BRG_CLK_SEL
BRG_CLK_OFF
BRG_FRP
BRG_TSR
MSD
DVCPUIF[0-20]
CLK270
PIX
BRG_IRQ
BRG_CS
INV
IC87
SN74AHC1GU04K-X
VCC
NC
GND
A
Y
10 MAIN

— MAIN SCHEMATIC DIAGRAMS (11/18) — (SD I/F)



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K
L
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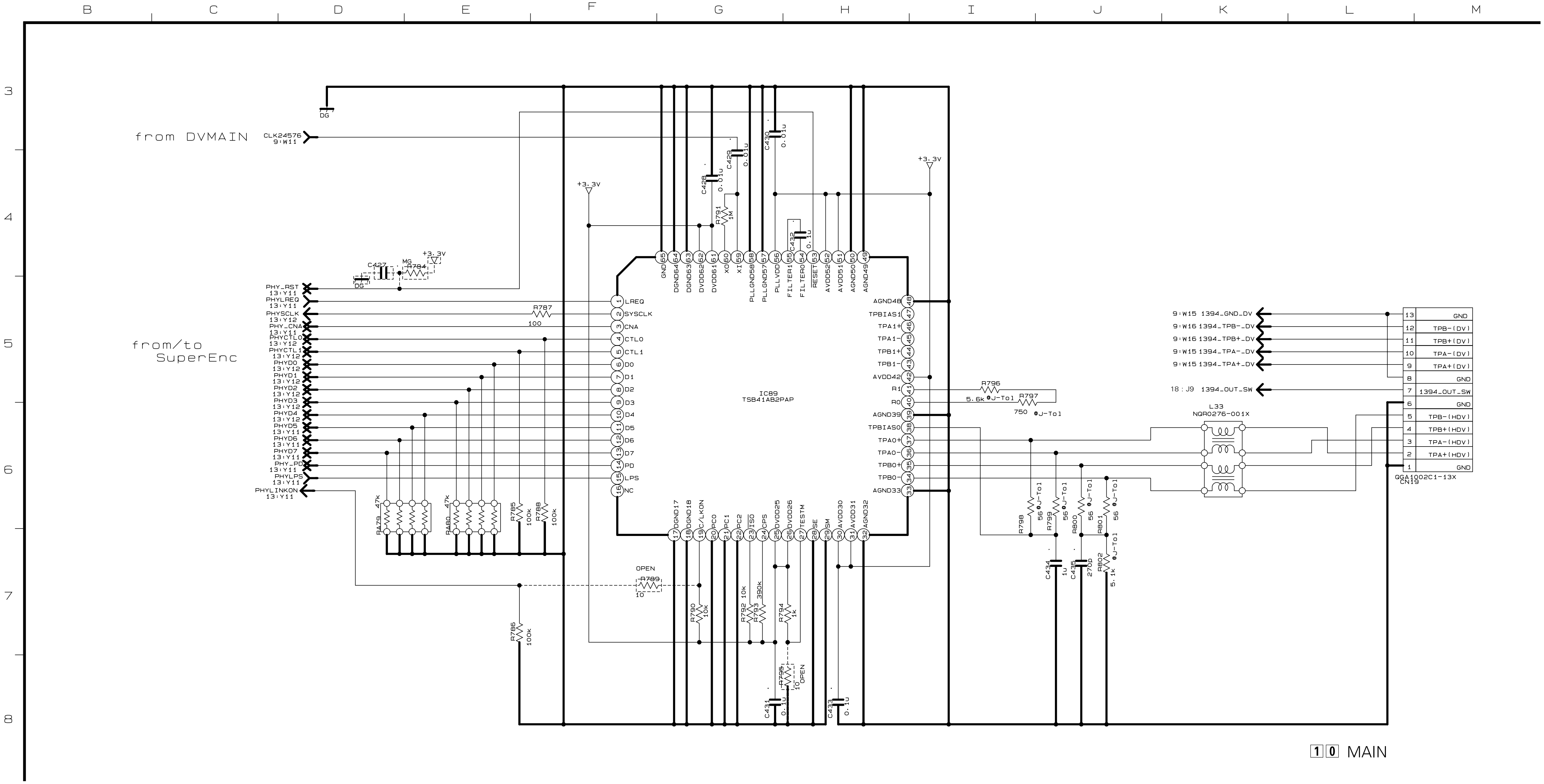
7
8
9
10
+3.3V
DG
C422 0.1u
C421 0.1u
C423 0.1u
C420
R769
R770 22
R771 22
R772 0
CN18 QGF0508F1-10X
1 VDD
2 DAT2
3 DAT3
4 CMD
5 CLOCK
6 DAT0
7 DAT1
8 SD_CD
9 SD_WP
10 GND
IC88 MN5774
VDD
SDDAT2
SDDAT3
SDCMD
VSS
SDCLK
VDD
SDDAT0
SDDAT1
SDCD
SDWP
DMAREQ
VSS
DMAACK
MINTESTY
XSTANDBY
MNA7
MNA6
MNA5
MNA4
MNA3
MNA2
MNA1
XMNRE
XMNIRQ
XMNDK
VDD
MCLK
VSS
XMNCS
MND0
MND1
MND2
MND3
MND4
MND5
XMNWE
XRST
MND15
MND14
MND13
MND12
MND11
MND10
MND9
MND8
MND7
MND6
DMA_REQ
DMA_ACK
XMNIRQ
XSTANDBY
XRST
XMN_CS
XMN_RE
XMN_WE
XMN_DK
MCLK5774
from/to SuperEnc
from/to SuperEnc
from/to SuperEnc
13:E17:13:H17
13:E16:13:H17
13:E15:13:H17:14:J3
13:E16:13:H17:14:K3
13:J15:14:I3
13:J15:14:J3
A1
A2
A3
A4
A5
A6
A7
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
10 MAIN

– MAIN SCHEMATIC DIAGRAMS (12/18) – (1394 PHY)


B
C
D
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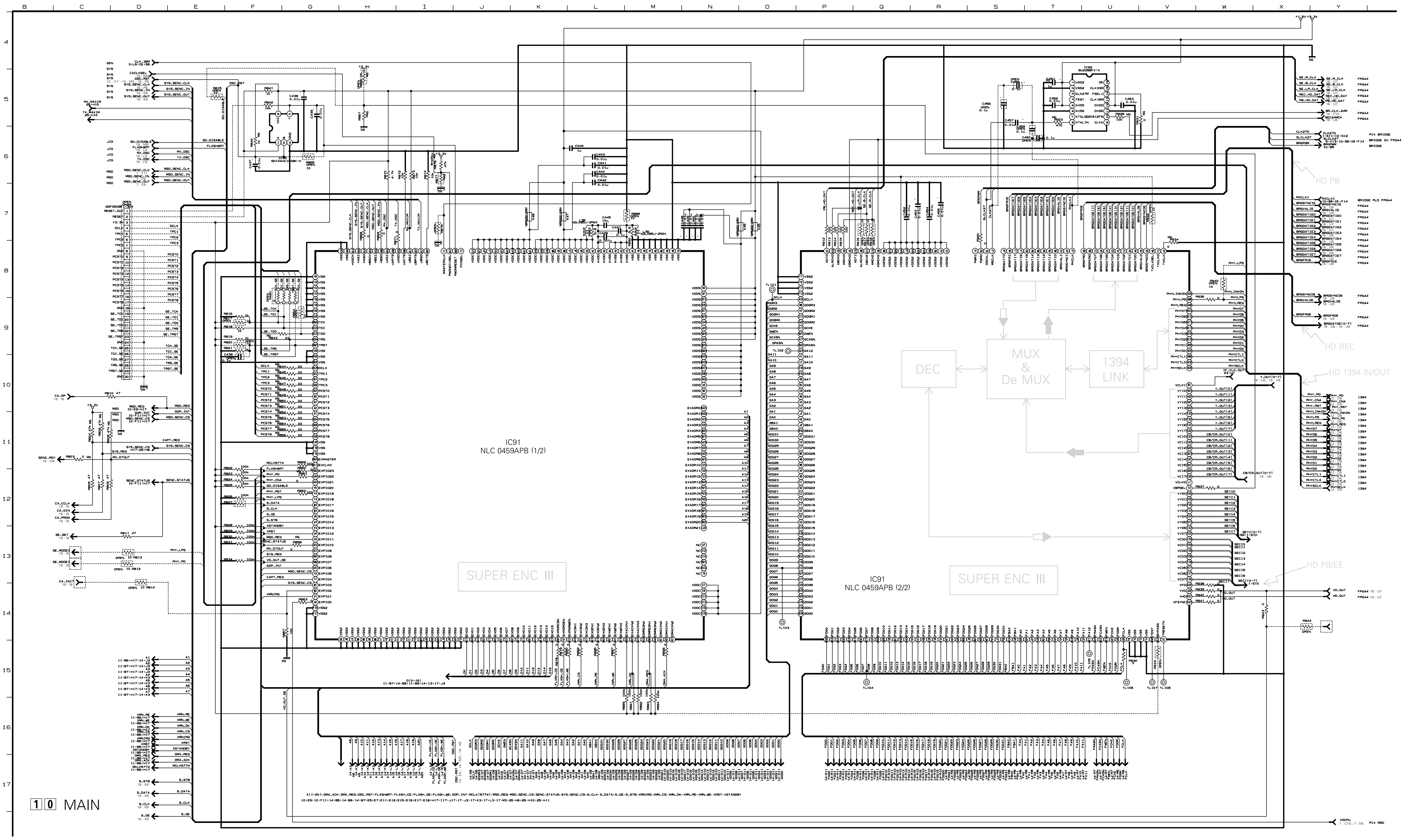
G
H
I
J
K
L
M
3
4
5
6
7
8
from DVMAIN
CLK24576
9:W11
DG
C427
MG
R784
+3.3V
PHY_RST
13:Y11
PHYLREQ
13:Y11
PHYSCLK
13:Y12
PHY_CNA
13:Y11
PHYCTL0
13:Y12
PHYCTL1
13:Y12
PHYD0
13:Y12
PHYD1
13:Y12
PHYD2
13:Y12
PHYD3
13:Y12
PHYD4
13:Y12
PHYD5
13:Y11
PHYD6
13:Y11
PHYD7
13:Y11
PHY_PD
13:Y11
PHYLPS
13:Y11
PHYLINKON
13:Y11
from/to
SuperEnc
R787
100
RA79 47k
RA80 47k
R785
100k
R788
100k
R786
100k
OPEN
R789
10
C428
0.01u
C429
0.01u
C430
0.01u
R791
1M
C432
0.1u
IC89
TSB41AB2PAP
GND 65
DGND64 64
DGND63 63
DVDD62 62
DVDD61 61
XO 60
XI 59
PLLGND58 58
PLLGND57 57
PLLVDD56 56
FILTER1 55
FILTER0 54
RESET 53
AVDD52 52
AVDD51 51
AGND50 50
AGND49 49
1 LREQ
2 SYSCLK
3 CNA
4 CTL0
5 CTL1
6 D0
7 D1
8 D2
9 D3
10 D4
11 D5
12 D6
13 D7
14 PD
15 LPS
16 NC
17 DGND17
18 DGND18
19 C/LKON
20 PC0
21 PC1
22 PC2
23 ISO
24 CPS
25 DVDD25
26 DVDD26
27 TESTM
28 SE
29 SM
30 AVDD30
31 AVDD31
32 AGND32
AGND48 48
TPBIAS1 47
TPA1+ 46
TPA1- 45
TPB1+ 44
TPB1- 43
AVDD42 42
R1 41
R0 40
AGND39 39
TPBIAS0 38
TPA0+ 37
TPA0- 36
TPB0+ 35
TPB0- 34
AGND33 33
R790
10k
R792 10k
R793 390k
R794
1k
R795
10
OPEN
C431
0.1u
C433
0.1u
R796
5.6k
J-To1
R797
750
J-To1
R798
56
J-To1
R799
56
J-To1
R800
56
J-To1
R801
56
J-To1
R802
5.1k
J-To1
C434
1u
C435
270p
L33
NQR0276-001X
9:W15 1394_GND_DV
9:W16 1394_TPB-_DV
9:W16 1394_TPB+_DV
9:W15 1394_TPA-_DV
9:W15 1394_TPA+_DV
18:J9 1394_OUT_SW
13 GND
12 TPB-(DV)
11 TPB+(DV)
10 TPA-(DV)
9 TPA+(DV)
8 GND
7 1394_OUT_SW
6 GND
5 TPB-(HDV)
4 TPB+(HDV)
3 TPA-(HDV)
2 TPA+(HDV)
1 GND
QGA1002C1-13X
CN19
10 MAIN

– MAIN SCHEMATIC DIAGRAMS (13/18) – (SENC)



B
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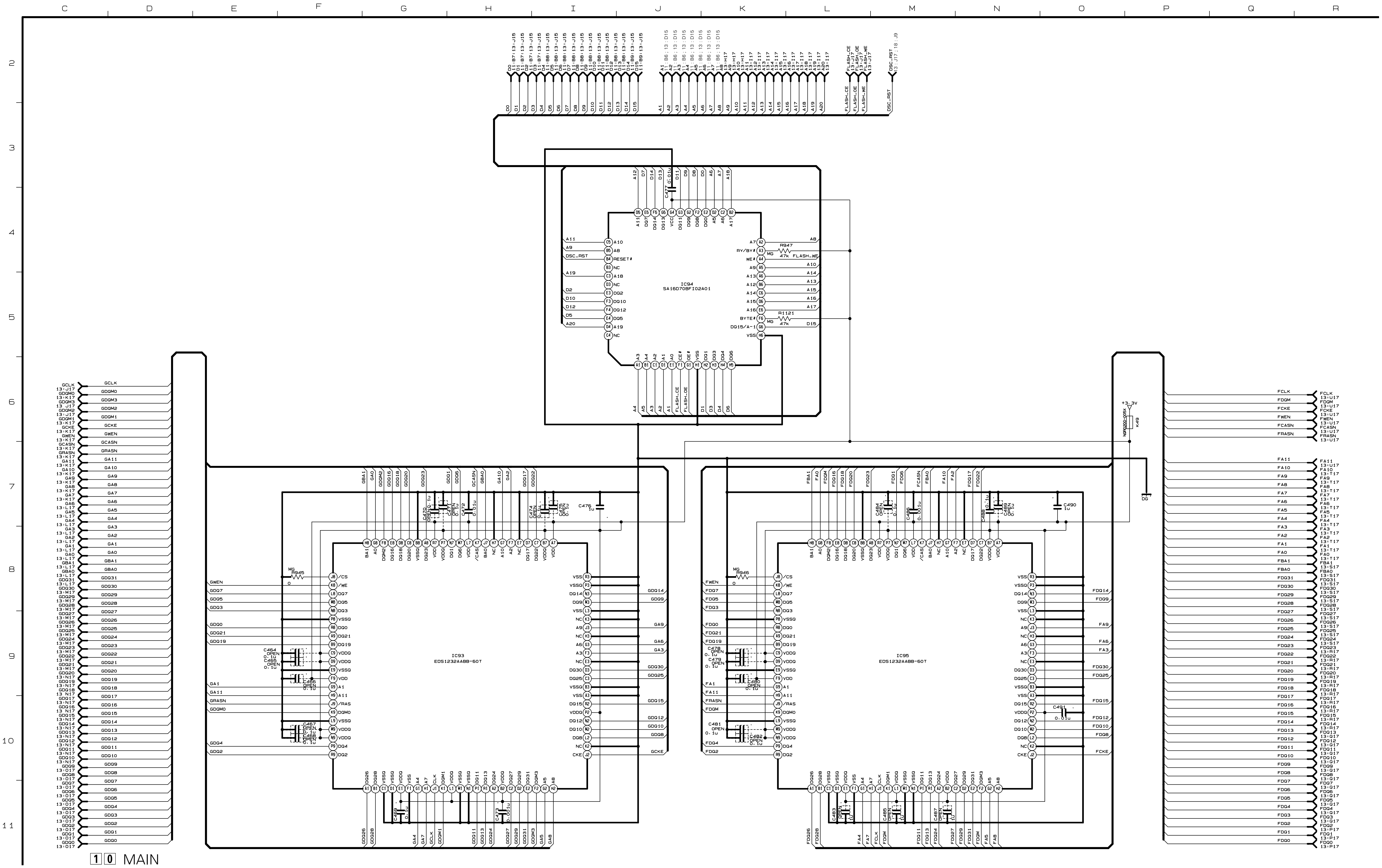
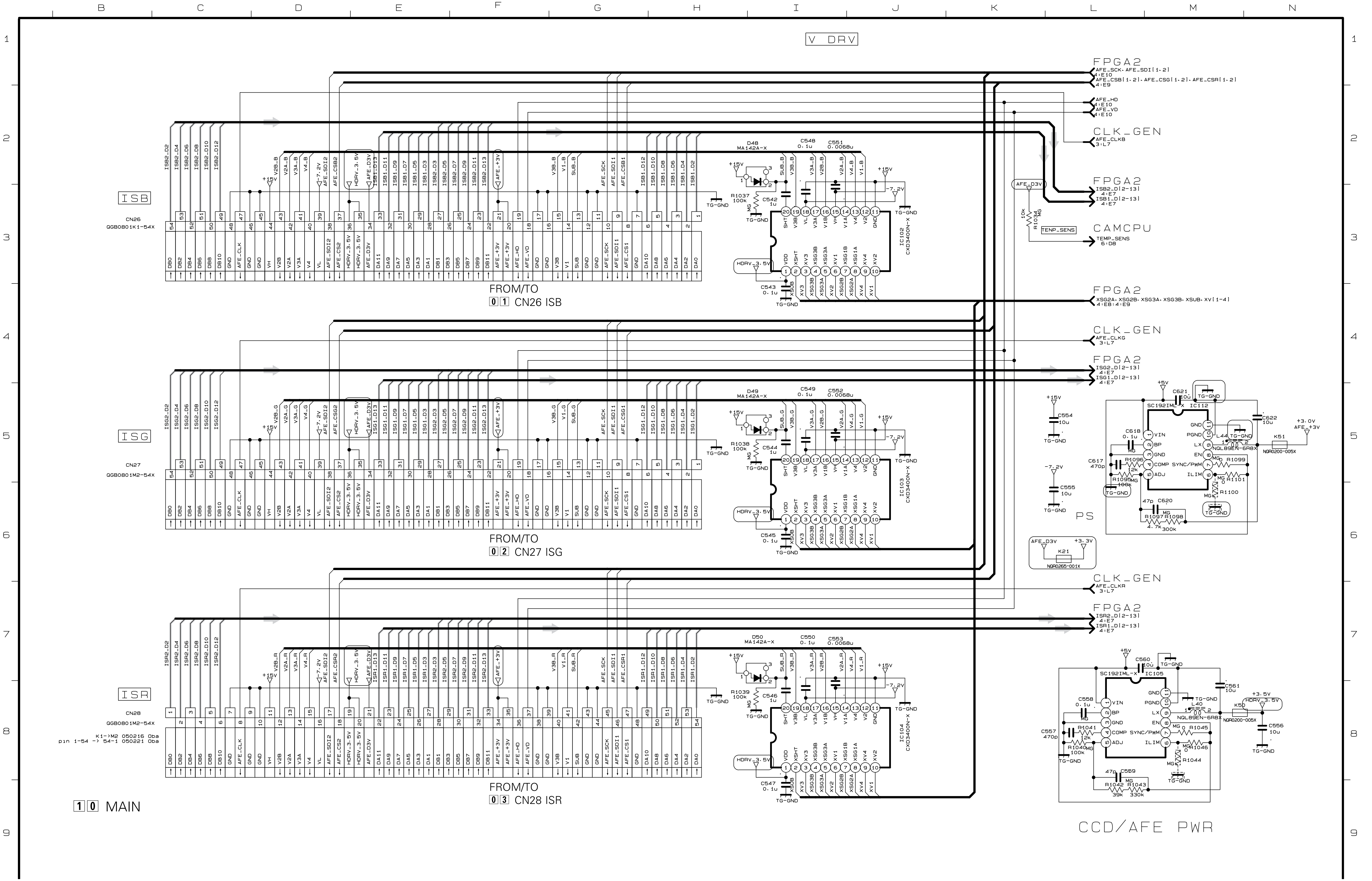
16
17
IC91
NLC 0459APB (1/2)
SUPER ENC III
IC91
NLC 0459APB (2/2)
SUPER ENC III
DEC
MUX
&
De MUX
1394
LINK
HD PB
HD REC
HD 1394 IN/OUT
HD PB/EE
10 MAIN

– MAIN SCHEMATIC DIAGRAMS (14/18) – (SENC RAM)

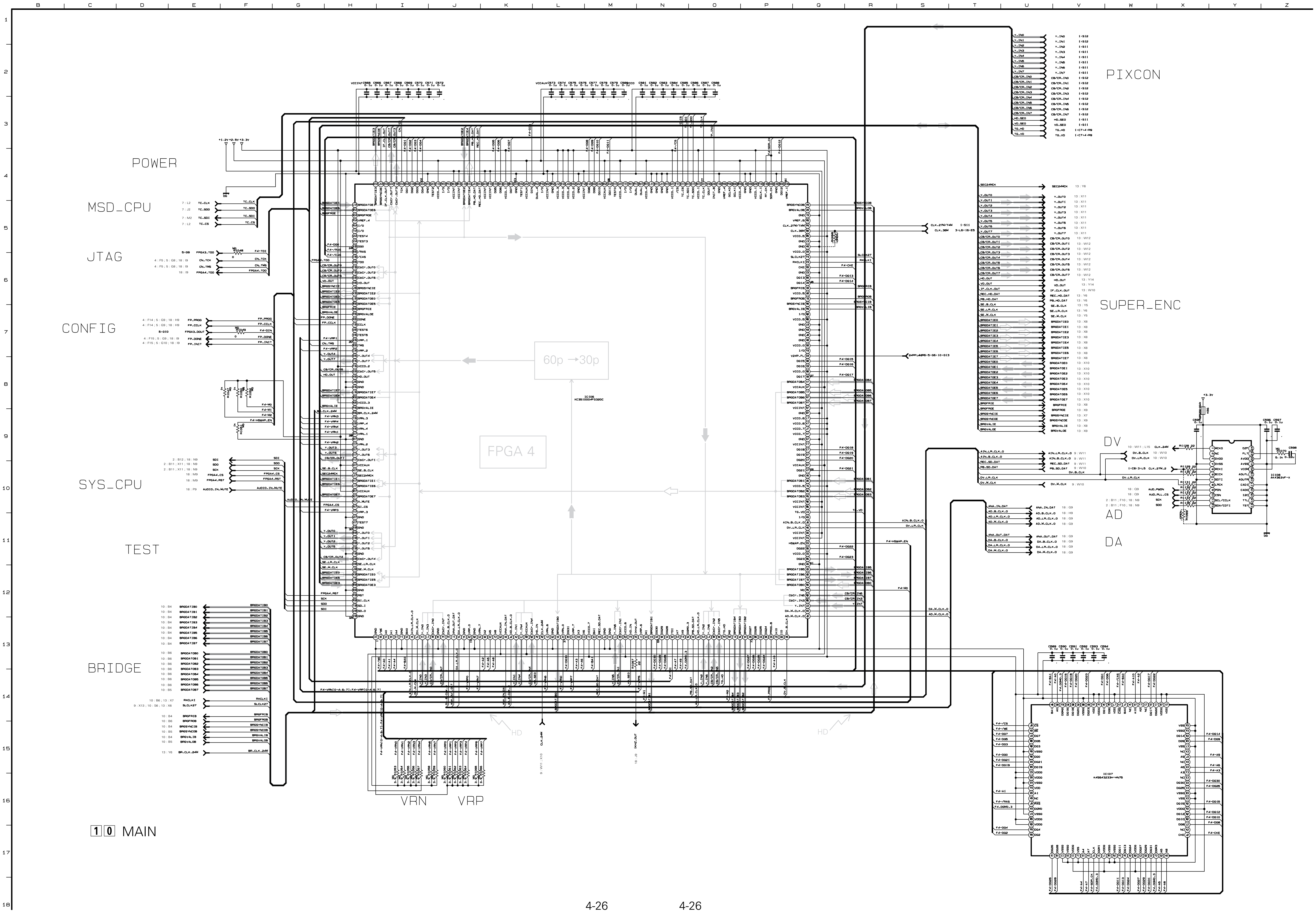


IC94
SA16D70BFI02A01
IC93
EDS1232AABB-60T
IC95
EDS1232AABB-60T
R947 47k
R1121 47k
R945 0
R946 0
C477 0.01u
C476 1u
C490 1u
C491 0.01u
K49
NQR0200-005X
+3.3V
D6
FLASH_CE
FLASH_OE
FLASH_WE
DSC_RST
10 MAIN

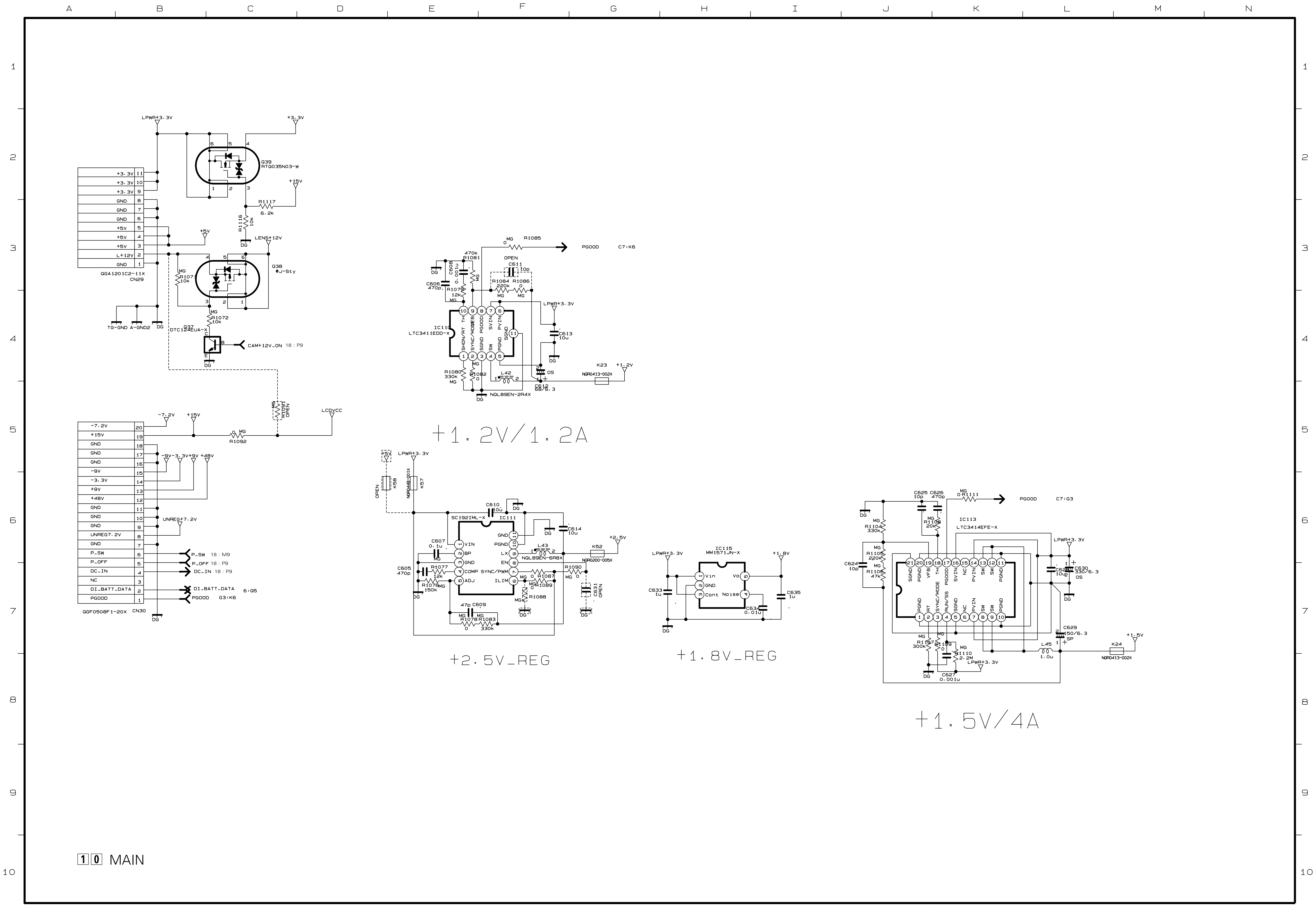
– MAIN SCHEMATIC DIAGRAMS (15/18) – (IS I/F)


V DRV
FPGA2
AFE_SCK, AFE_SDI[1,2]
4:E10
AFE_CSB[1,2], AFE_CSG[1,2], AFE_CSR[1,2]
4:E9
AFE_HD
4:E10
AFE_VD
4:E10
CLK_GEN
AFE_CLKB
3:L7
FPGA2
ISB2_D[2-13]
4:E7
ISB1_D[2-13]
4:E7
CAMCPU
TEMP_SENS
6:D8
FPGA2
XSG2A, XSG2B, XSG3A, XSG3B, XSUB, XV[1-4]
4:E8, 4:E9
CLK_GEN
AFE_CLKG
3:L7
FPGA2
ISG2_D[2-13]
4:E7
ISG1_D[2-13]
4:E7
CLK_GEN
AFE_CLKR
3:L7
FPGA2
ISR2_D[2-13]
4:E7
ISR1_D[2-13]
4:E7
ISB
CN26
QGB0801K1-54X
FROM/TO
01 CN26 ISB
ISG
CN27
QGB0801M2-54X
FROM/TO
02 CN27 ISG
ISR
CN28
QGB0801M2-54X
K1->M2 050216 Oba
pin 1-54 -> 54-1 050221 Oba
FROM/TO
03 CN28 ISR
10 MAIN
D48 MA142A-X
D49 MA142A-X
D50 MA142A-X
C548 0.1u
C551 0.0068u
C549 0.1u
C552 0.0068u
C550 0.1u
C553 0.0068u
R1037 100k
R1038 100k
R1039 100k
C542 1u
C544 1u
C546 1u
C543 0.1u
C545 0.1u
C547 0.1u
IC102 CXD3400N-X
IC103 CXD3400N-X
IC104 CXD3400N-X
HDRV_3.5V
AFE_D3V
+15V
-7.2V
TG-GND
MG
R1034 10k
TEMP_SENS
C554 10u
C555 10u
PS
AFE_D3V
+3.3V
K21
NQR0265-001X
SC192IML-X IC112
C621 10u
C622 10u
C618 0.1u
C617 470p
R1096 12k
R1095 100k
C620 47p
R1097 4.7k
R1098 300k
R1099
R1101
R1100
L44 NQL89EN-6R8X
K51 NQR0200-005X
+3.0V
AFE_+3V
+5V
VIN BP GND COMP SYNC/PWM ADJ
GND PGND LX EN ILIM
SC192IML-X IC105
C560 10u
C561 10u
C558 0.1u
C557 470p
R1041 12k
R1040 100k
C559 47p
R1042 39k
R1043 330k
R1045
R1046
R1044
L40 NQL89EN-6R8X
K50 NQR0200-005X
+3.5V
HDRV_3.5V
C556 10u
CCD/AFE PWR

— MAIN SCHEMATIC DIAGRAMS (16/18) — (60/30 FPGA-4)

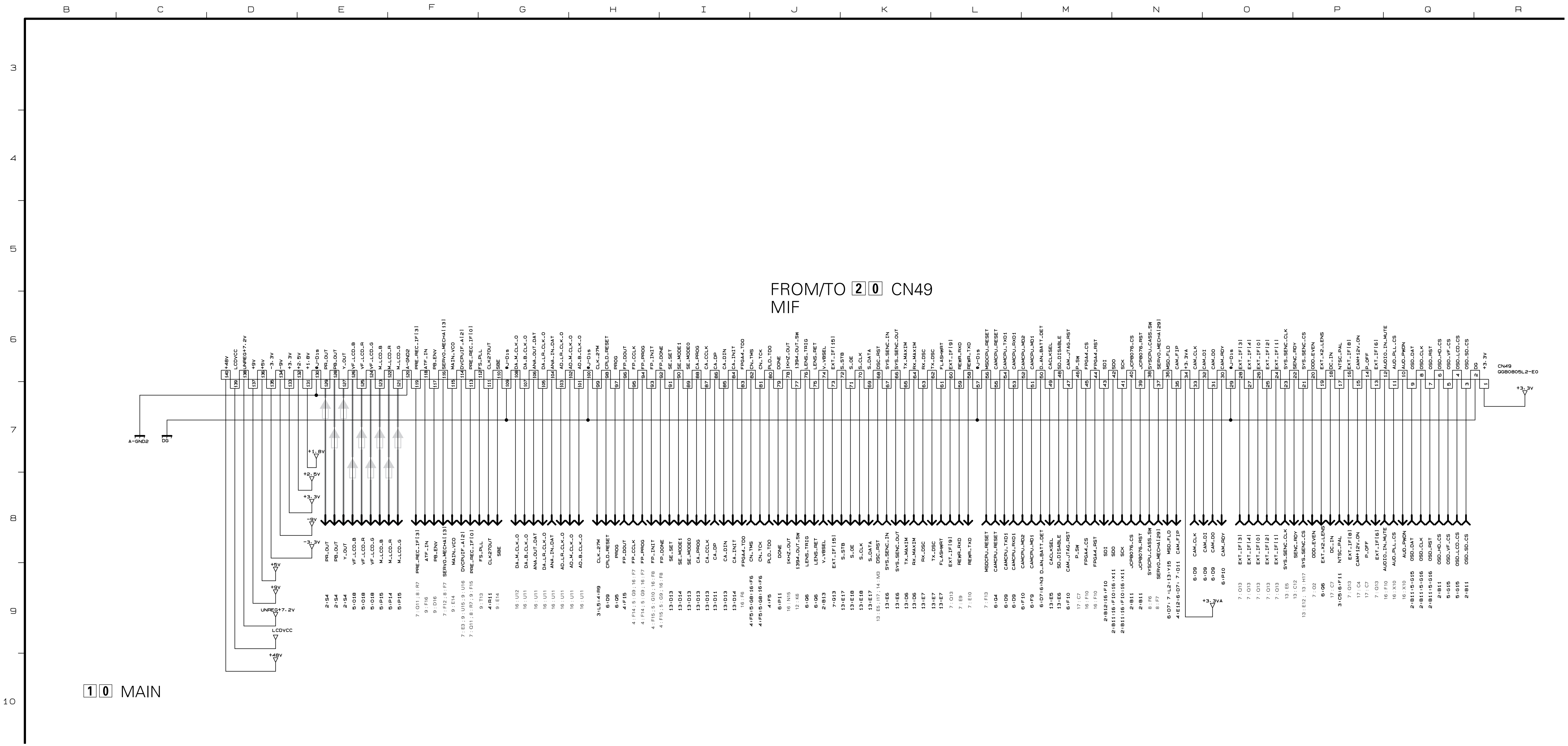

POWER
MSD_CPU
JTAG
CONFIG
SYS_CPU
TEST
BRIDGE
PIXCON
SUPER_ENC
DV
AD
DA
60p →30p
FPGA 4
IC106
XC3S10004FG320C
IC107
K4S643233H-HN75
IC108
AK4363VF-X
VRN
VRP
HD
HD
10 MAIN

– MAIN SCHEMATIC DIAGRAMS (17/18) – (LOCAL_PWR)



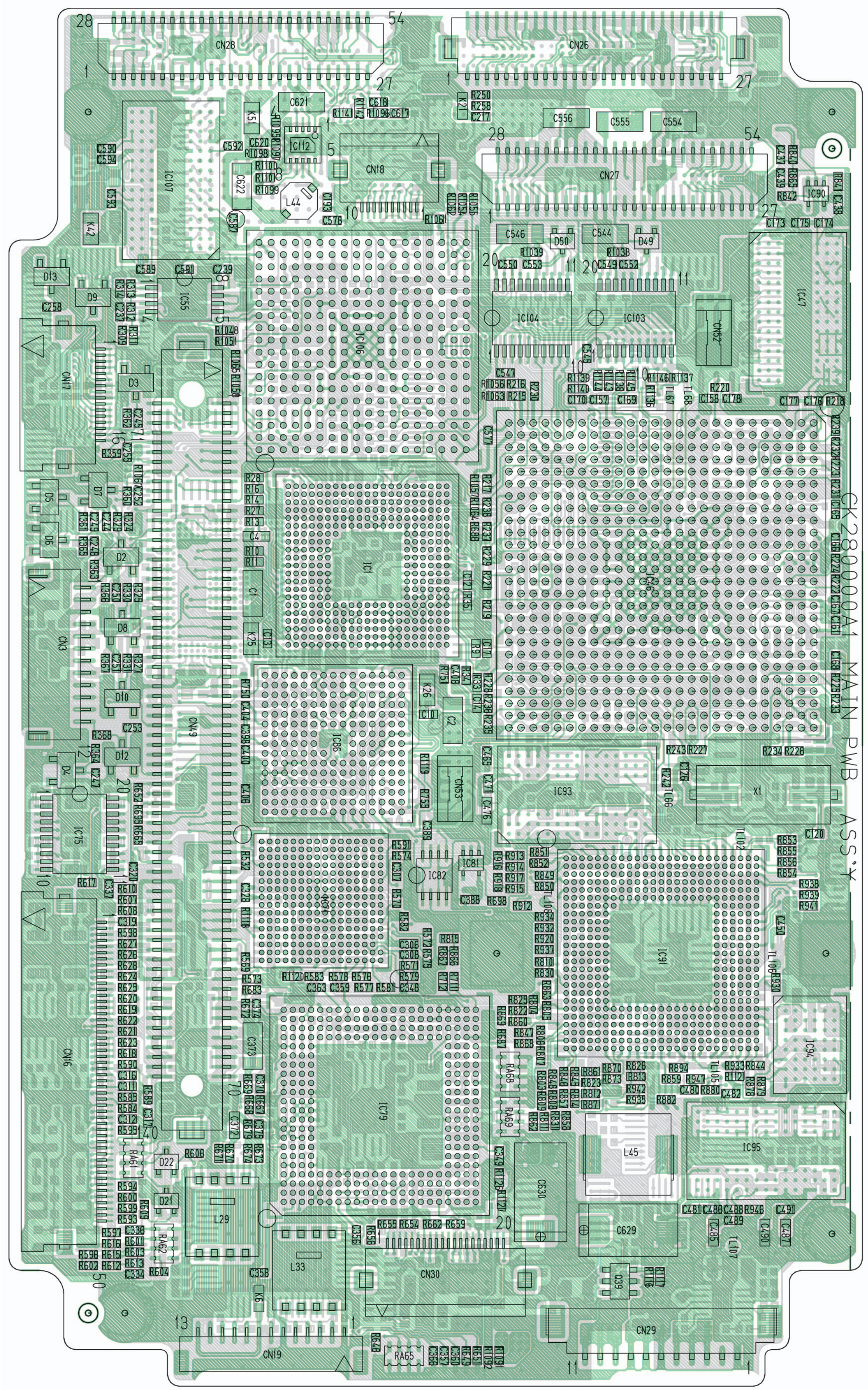
A B C D E F G H I J K L M N
1 2 3 4 5 6 7 8 9 10
LPWR+3.3V
+3.3V
Q39
RTQ035N03-W
+15V
R1117
6.2k
R1116
10k
+3.3V 11
+3.3V 10
+3.3V 9
GND 8
GND 7
GND 6
+5V 5
+5V 4
+5V 3
L+12V 2
GND 1
QGA1201C2-11X
CN29
+5V
LENS+12V
Q38
J-Sty
R1071
10k
R1072
10k
Q37
DTC124EUA-X
CAM+12V_ON 18 : P9
TG-GND
A-GND2
DG
MG
R1085
PGOOD C7:K6
470k
R1081
C608
0.01u
OPEN
C611
10p
C606
470p
R1079
12k
R1084
220k
R1086
0
LPWR+3.3V
IC110
LTC3411EDD-X
SHDN/RT
SYNC/MODE
SGND
SW
PGND
TH
FB
PGOOD
SVIN
PVIN
C613
10u
R1080
330k
R1082
0
L42
NGL89EN-2R4X
K23
NQR0413-002X
+1.2V
OS
C612
68/6.3
+1.2V/1.2A
-7.2V
+15V
LCDVCC
R1092
R1093
OPEN
-7.2V 20
+15V 19
GND 18
GND 17
GND 16
-9V 15
-3.3V 14
+9V 13
+48V 12
GND 11
GND 10
GND 9
UNREG7.2V 8
GND 7
P_SW 6
P_OFF 5
DC_IN 4
NC 3
DI_BATT_DATA 2
PGOOD 1
QGF0508F1-20X
CN30
-9V
-3.3V
+9V
+48V
UNREG7.2V
P_SW 18 : M9
P_OFF 18 : P9
DC_IN 18 : P9
DI_BATT_DATA 6:Q5
PGOOD G3:K6
+5V
LPWR+3.3V
K58
K57
NQR0448-001X
OPEN
C610
10u
SC1921ML-X
IC111
C607
0.1u
C605
470p
R1077
12k
R1076
150k
VIN
BP
GND
COMP
ADJ
GND
PGND
LX
EN
SYNC/PWM
ILIM
C614
10u
L43
NGL89EN-6R8X
K52
NQR0200-005X
+2.5V
R1090
0
R1087
0
R1089
R1088
C631
OPEN
C609
47p
R1078
0
R1083
330k
+2.5V_REG
LPWR+3.3V
IC115
MM1571JN-X
+1.8V
Vin
GND
Cont
Vo
Noise
C633
1u
C634
0.01u
C635
1u
+1.8V_REG
C625
10p
C626
470p
R1111
0
PGOOD C7:G3
R1104
330k
R1108
20k
IC113
LTC3414EFE-X
LPWR+3.3V
C624
10p
R1105
220k
R1106
47k
SGND
PGND
VFB
TH
PGOOD
SVIN
NC
PVIN
SW
PGND
RT
SYNC/MODE
RUN/SS
SGND
C628
10u
C630
330/6.3
OS
C629
150/6.3
SP
R1107
330k
R1109
0
R1110
2.2M
C627
0.001u
LPWR+3.3V
L45
1.0u
K24
NQR0413-002X
+1.5V
+1.5V/4A
10 MAIN

– MAIN SCHEMATIC DIAGRAMS (18/18) – (MIF I/F)

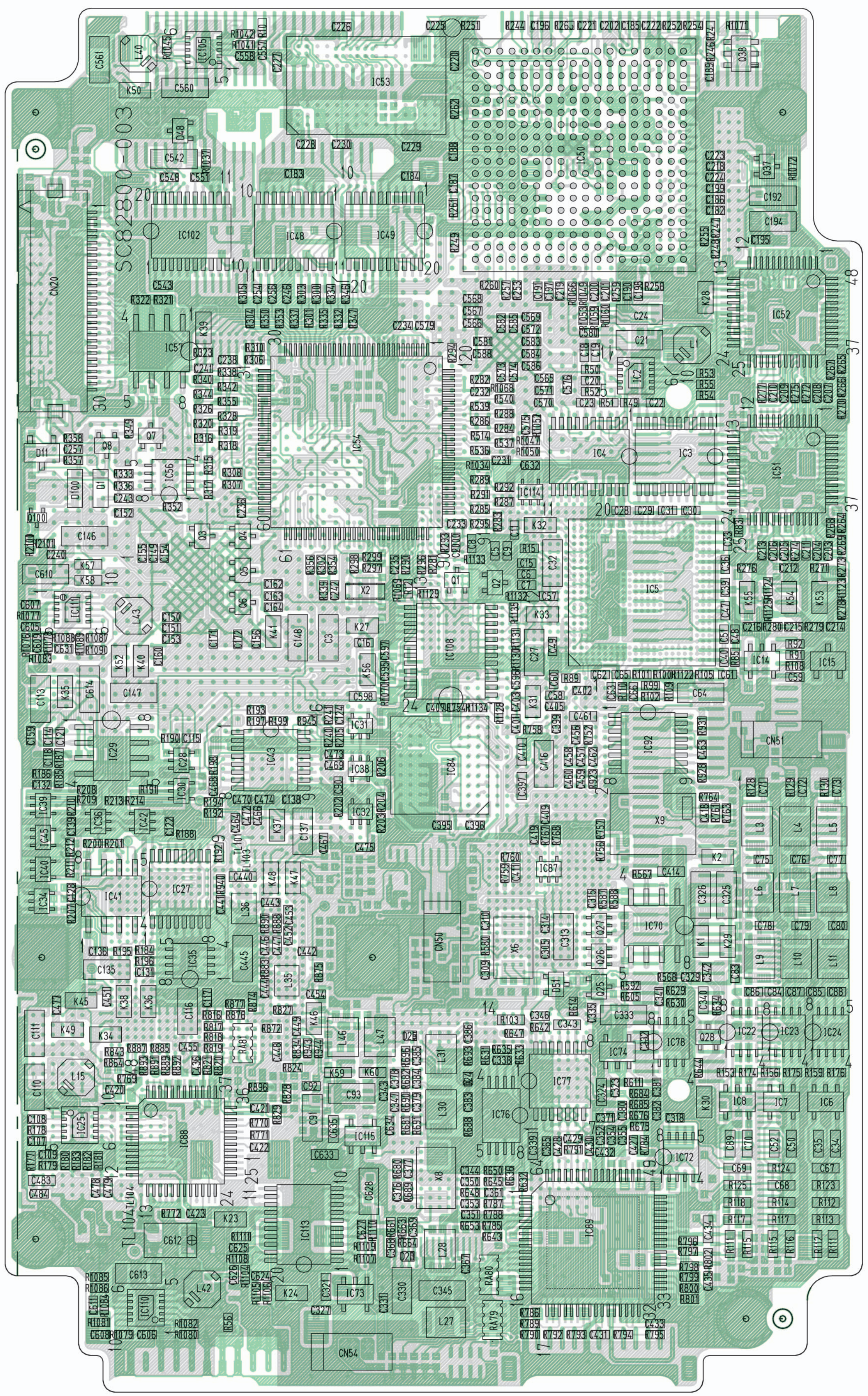

B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
3
4
5
6
7
8
9
10
FROM/TO 20 CN49
MIF
CN49
GGB0805L2-E0
+3.3V
A-GND2
DG
+1.8V
+2.5V
+3.3V
-3.3V
+5V
+9V
UNREG+7.2V
LCDVCC
+48V
+3.3VA
10 MAIN

4.10 MAIN CIRCUIT BOARD

— SIDE A —


CK28000A1 MAIN PWB ASS'Y

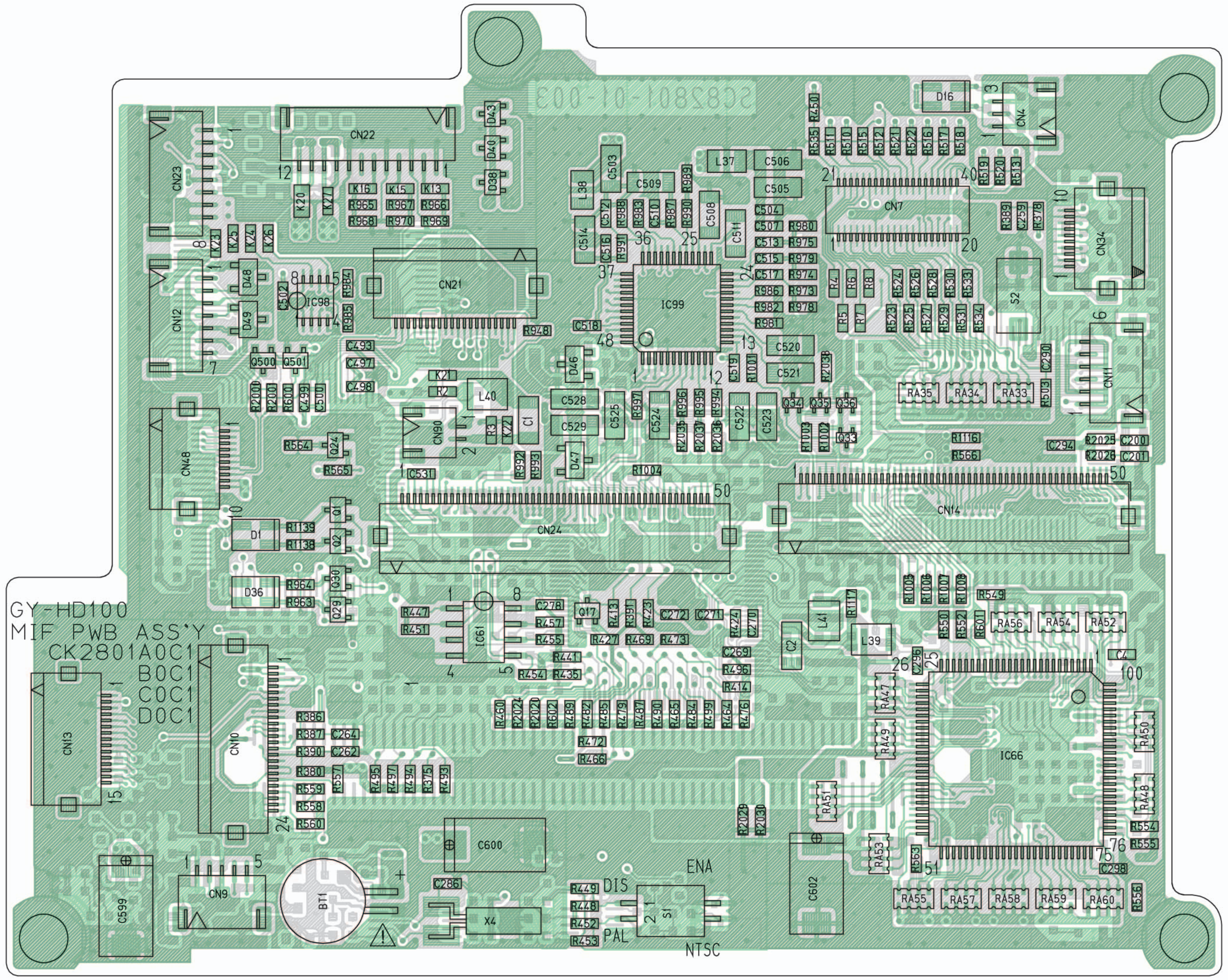
— SIDE B —



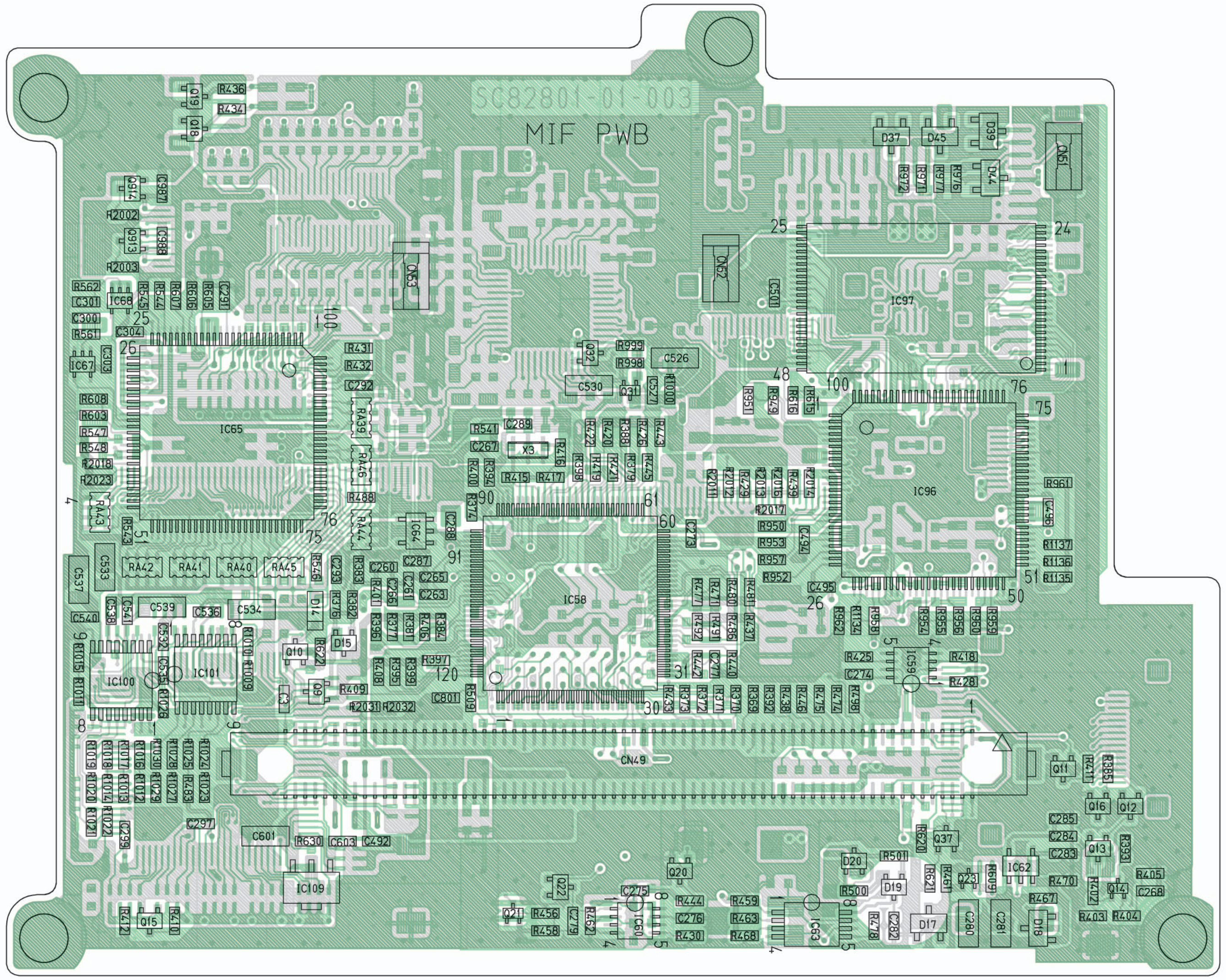
4.11 MIF & PS CIRCUIT BOARDS

– MIF –

– SIDE A –

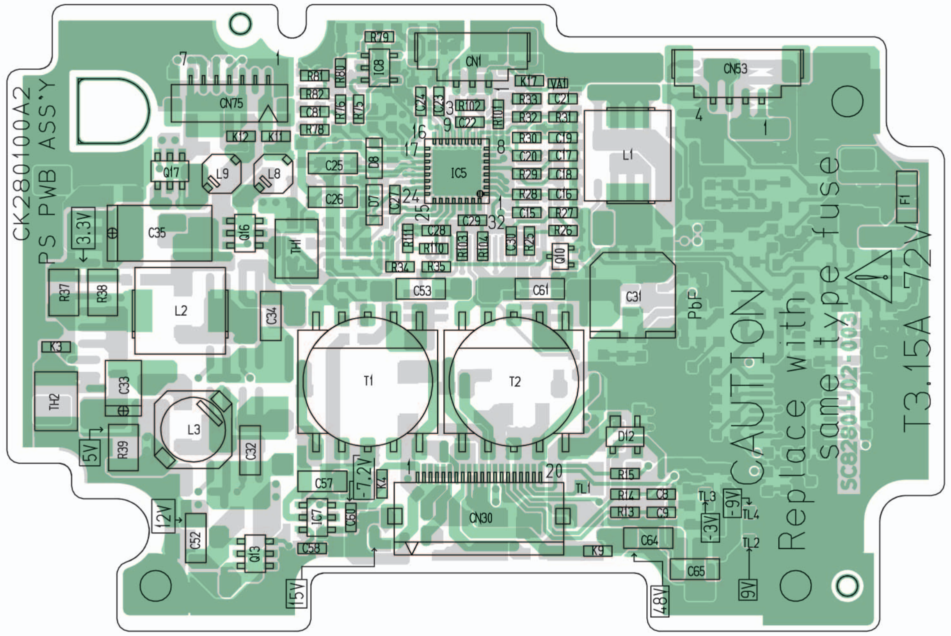

SC82801-01-003
GY-HD100
MIF PWB ASS'Y
CK2801A0C1
B0C1
C0C1
D0C1
IC99
IC66
CN21
CN22
CN24
CN14
CN7
CN34
CN10
CN13
CN48
CN9
C600
BT1
ENA
DIS
PAL
NTSC

– SIDE B –

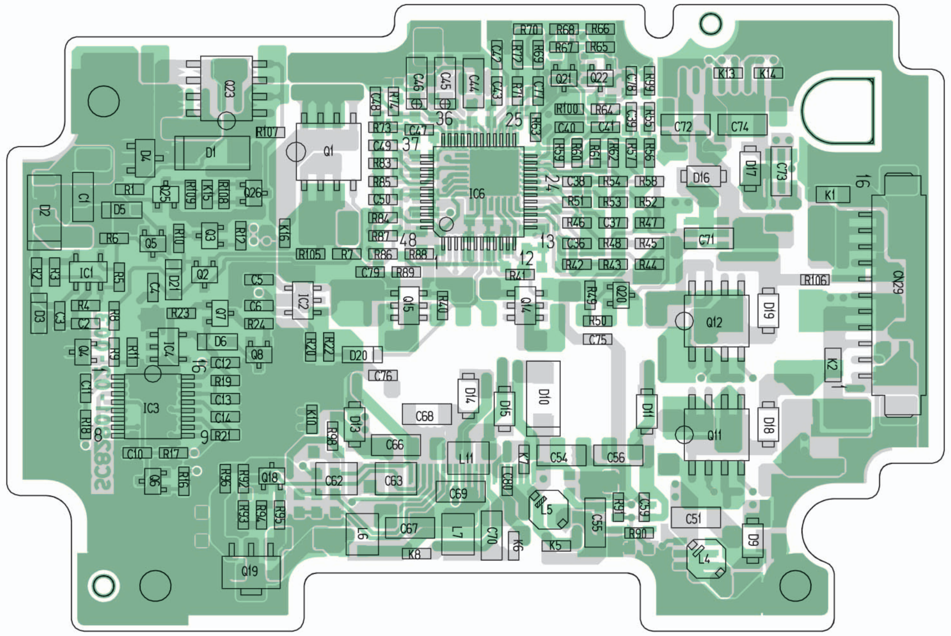

SC82801-01-003
MIF PWB
IC65
IC58
IC96
IC97
IC100
IC101
IC109
CN49

– PS –

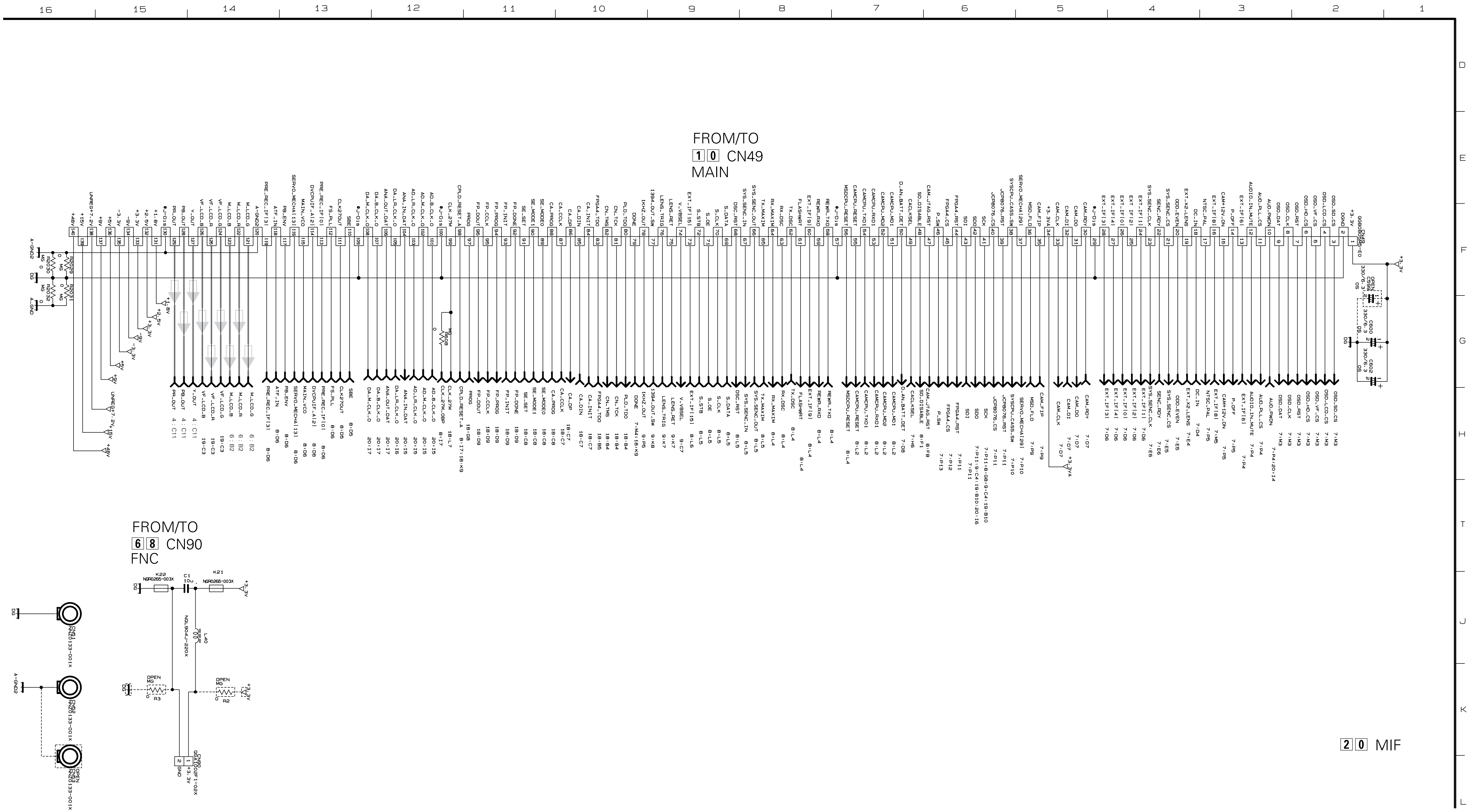
– SIDE A –


CK280100A2
PS PWB ASS'Y
IC5
T1
T2
L2
L3
CN75
CN30
CN1
CN3
CAUTION
Replace with
same type fuse
T3.15A 72V

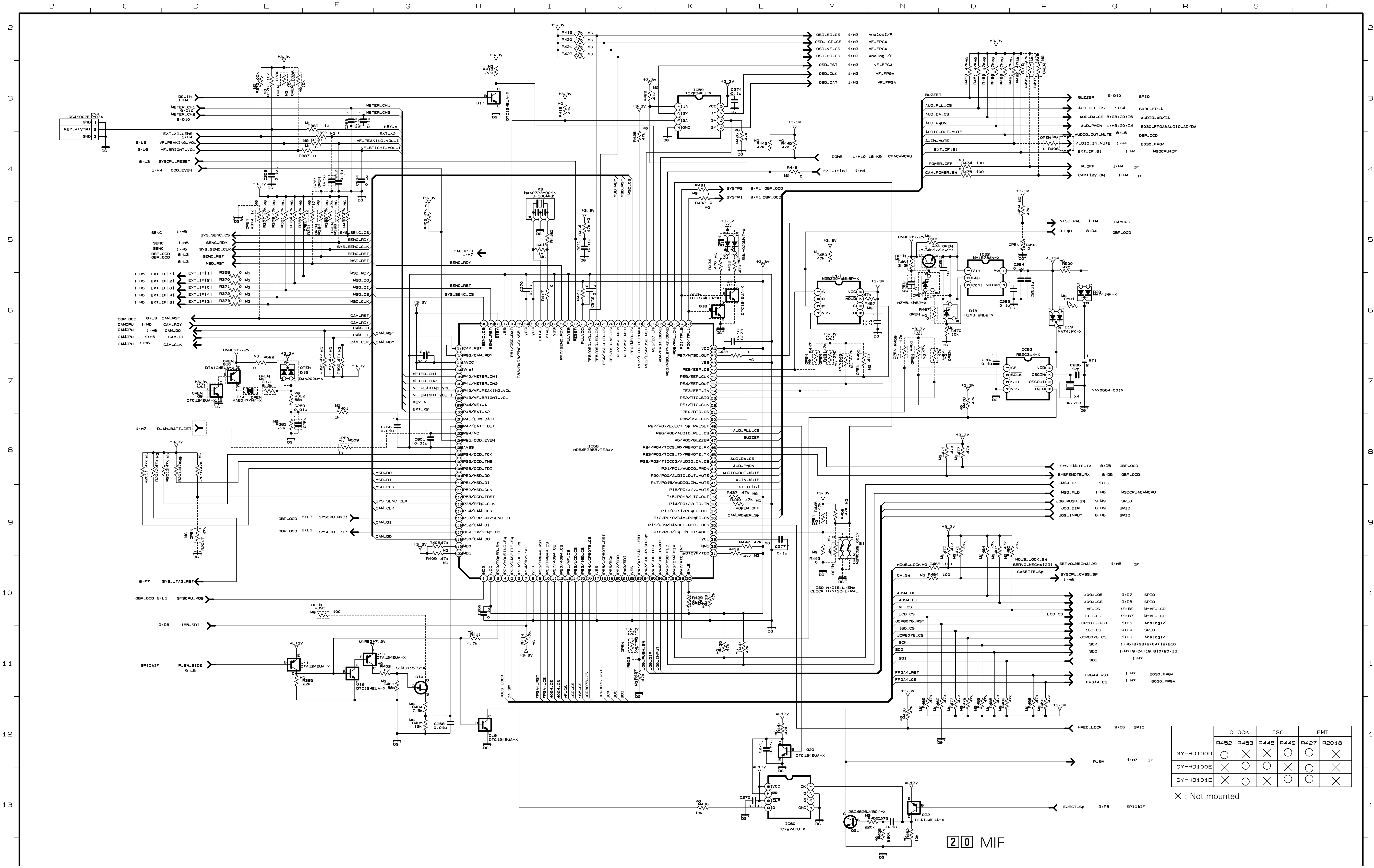
– SIDE B –


IC5
IC3
Q1
CN29

4.12 MIF SCHEMATIC DIAGRAMS (1/7) (MIF-MAIN I/F)


16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
D
E
F
G
H
I
J
K
L
FROM/TO
10 CN49
MAIN
FROM/TO
68 CN90
FNC
20 MIF

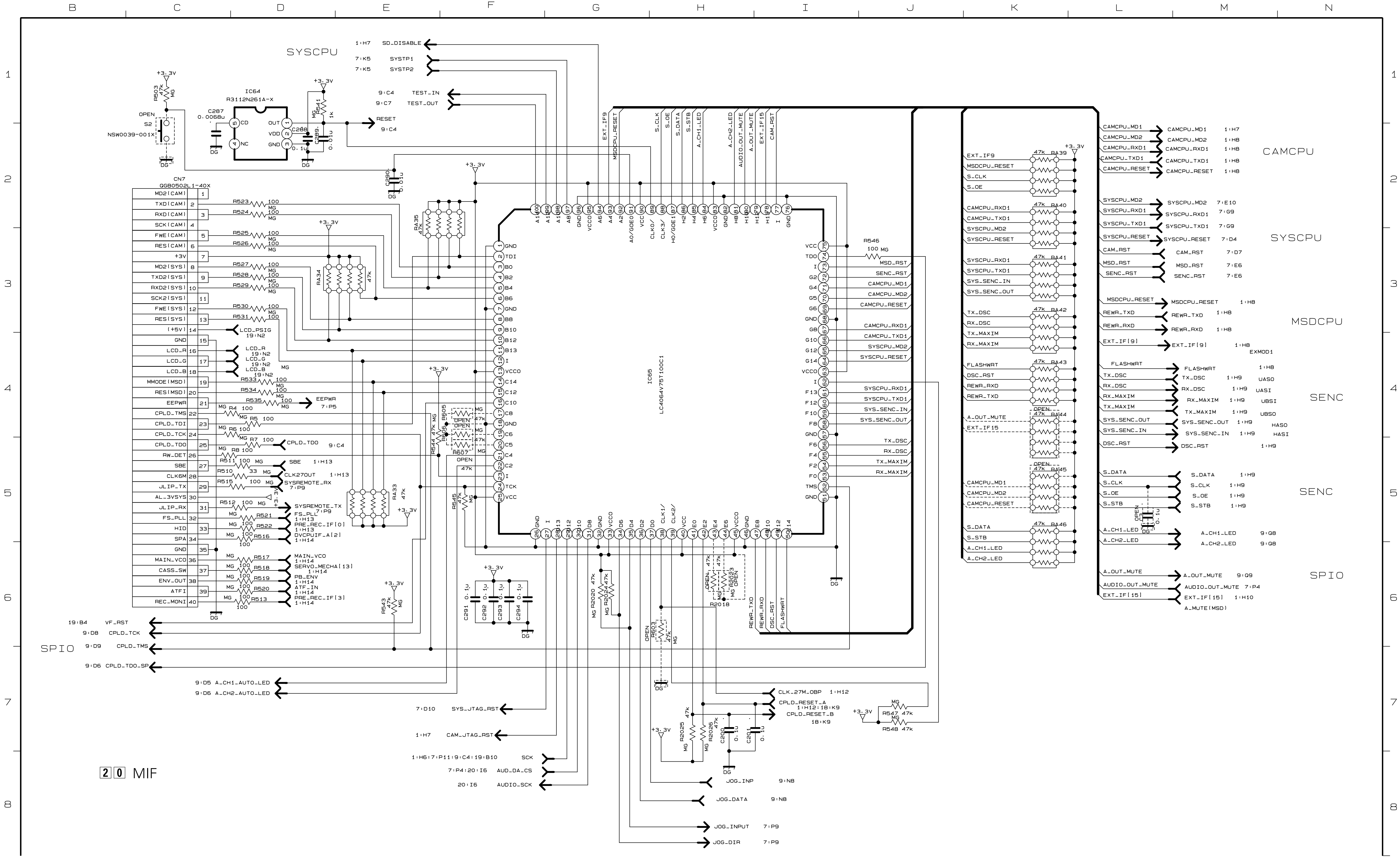
– MIF SCHEMATIC DIAGRAMS (2/7) – (SYS CPU)


B C D E F G H I J K L M N O P Q R S T
2 3 4 5 6 7 8 9 10 11 12 13
IC58
HD64F2368VTE34V
IC59
TC7W34FU-X
IC60
TC7W74FU-X
IC61
M95320-WMN6P-X
IC62
MM1573AN-X
IC63
RS5C314-X
X3
NAX0723-001X
8.500MHz
X4
32.768
NAX0564-001X
QGA1002F-03X
CN4
GND
KEY_A(VTR)
GND
DC_IN
METER_CH1
METER_CH2
EXT_X2_LENS
VF_PEAKING_VOL
VF_BRIGHT_VOL
SYSCPU_RESET
ODD_EVEN
SYS_SENC_CS
SENC_RDY
SYS_SENC_CLK
SENC_RST
MSD_RST
EXT_IF[1]
EXT_IF[2]
EXT_IF[0]
EXT_IF[4]
EXT_IF[3]
CAM_RST
CAM_RDY
CAM_DO
CAM_DI
CAM_CLK
D_AN_BATT_DET
SYSCPU_RXD1
SYSCPU_TXD1
SYS_JTAG_RST
SYSCPU_MD2
165_SDI
P_SW_SIDE
OSD_SD_CS
OSD_LCD_CS
OSD_VF_CS
OSD_HD_CS
OSD_RST
OSD_CLK
OSD_DAT
DONE
EXT_IF[8]
SYSTP2
SYSTP1
CACLKSEL
BUZZER
AUD_PLL_CS
AUD_DA_CS
AUD_PWDN
AUDIO_OUT_MUTE
A_IN_MUTE
EXT_IF[6]
POWER_OFF
CAM_POWER_SW
P_OFF
CAM+12V_ON
NTSC_PAL
EEPWR
SYSREMOTE_TX
SYSREMOTE_RX
CAM_FIP
MSD_FLD
JOG_PUSH_SW
JOG_DIR
JOG_INPUT
HOUS_LOCK_SW
SERVO_MECHA[29]
CA_SW
SYSCPU_CASS_SW
CASETTE_SW
4094_OE
4094_CS
VF_CS
LCD_CS
JCP8076_RST
165_CS
JCP8076_CS
SCK
SDO
SDI
FPGA4_RST
FPGA4_CS
HREC_LOCK
P_SW
EJECT_SW
ISO H:DIS L:ENA
CLOCK H:NTSC L:PAL
Q9 Q10 Q11 Q12 Q13 Q14 Q16 Q17 Q18 Q19 Q20 Q21 Q22 Q23
D14 D15 D17 D18 D19 D20
+3.3V
UNREG+7.2V
AL+3V
DG
MG
2 0 MIF

	CLOCK		ISO		FMT	
	R452	R453	R448	R449	R427	R2018
GY-HD100U	○	×	×	○	○	×
GY-HD100E	×	○	○	×	○	×
GY-HD101E	×	○	×	○	○	×

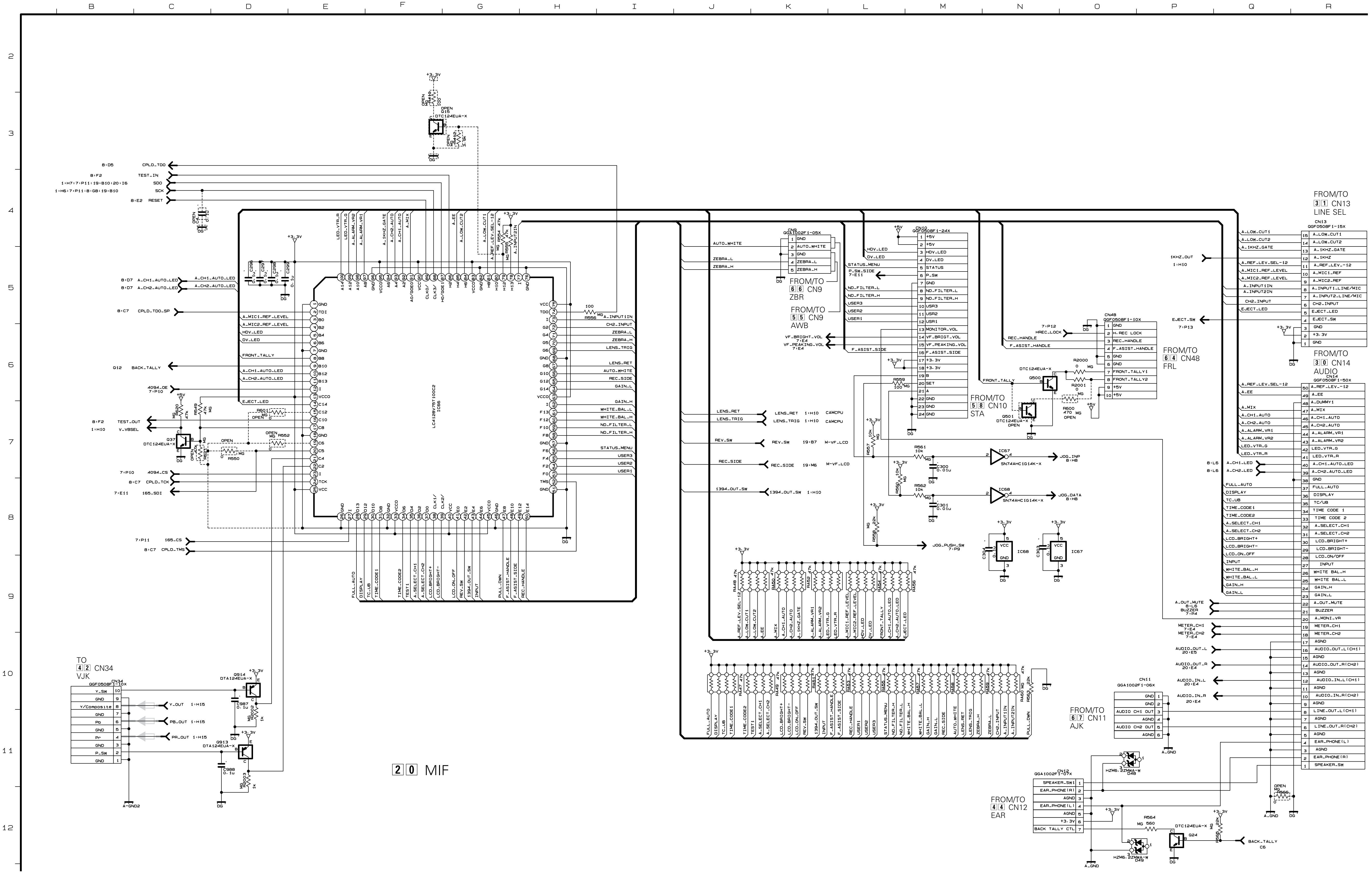
× : Not mounted

— MIF SCHEMATIC DIAGRAMS (3/7) — (OBP)

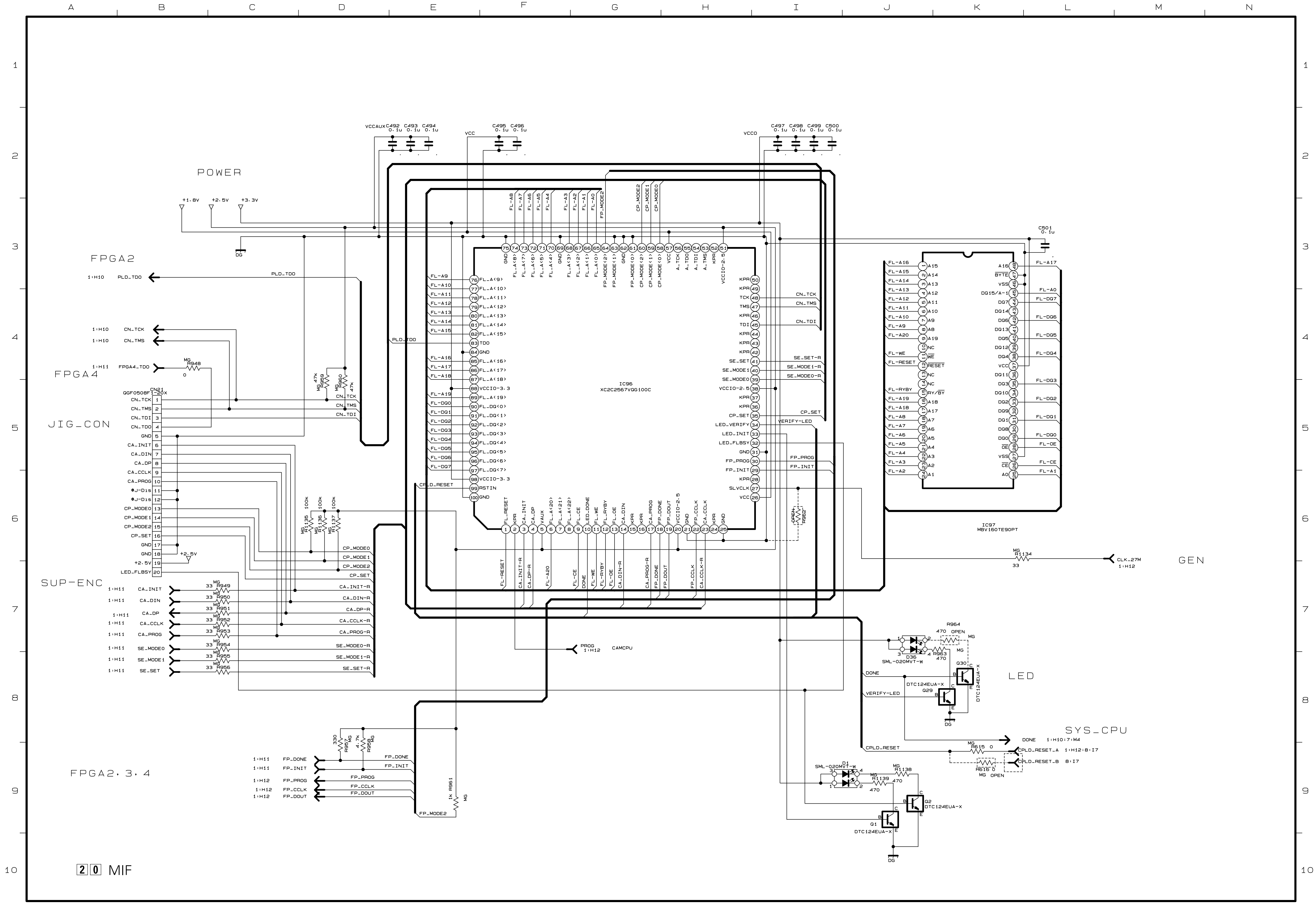


SYSCPU
CAMCPU
SYSCPU
MSDCPU
SENC
SENC
SPIO
SPIO
IC64
R3112N261A-X
IC65
LC4064V75T100C1
CN7
QGB0502L1-40X
S2
NSW0039-001X
OPEN
1:H7 SD_DISABLE
7:K5 SYSTP1
7:K5 SYSTP2
9:C4 TEST_IN
9:C7 TEST_OUT
RESET 9:C4
MD2(CAM)
TXD(CAM)
RXD(CAM)
SCK(CAM)
FWE(CAM)
RES(CAM)
+3V
MD2(SYS)
TXD2(SYS)
RXD2(SYS)
SCK2(SYS)
FWE(SYS)
RES(SYS)
(+5V)
GND
LCD_R
LCD_G
LCD_B
MMODE(MSD)
RES(MSD)
EEPWR
CPLD_TMS
CPLD_TDI
CPLD_TCK
CPLD_TDO
RW_DET
SBE
CLK6M
JLIP_TX
AL_3VSYS
JLIP_RX
FS_PLL
HID
SPA
GND
MAIN_VCO
CASS_SW
ENV_OUT
ATFI
REC_MONI
LCD_PSIG 19:N2
EEPWR 7:P5
CPLD_TDO 9:C4
SBE 1:H13
CLK27OUT 1:H13
SYSREMOTE_RX 7:P9
SYSREMOTE_TX 7:P9
FS_PLL 1:H13
PRE_REC_IF[0] 1:H13
DVCPUIF_A[2] 1:H14
MAIN_VCO 1:H14
SERVO_MECHA[13] 1:H14
PB_ENV 1:H14
ATF_IN 1:H14
PRE_REC_IF[3] 1:H14
19:B4 VF_RST
9:D8 CPLD_TCK
9:D9 CPLD_TMS
9:D6 CPLD_TDO_SP
9:D5 A_CH1_AUTO_LED
9:D6 A_CH2_AUTO_LED
7:D10 SYS_JTAG_RST
1:H7 CAM_JTAG_RST
1:H6:7:P11:9:C4:19:B10 SCK
7:P4:20:I6 AUD_DA_CS
20:I6 AUDIO_SCK
CLK_27M_OBP 1:H12
CPLD_RESET_A 1:H12:18:K9
CPLD_RESET_B 18:K9
JOG_INP 9:N8
JOG_DATA 9:N8
JOG_INPUT 7:P9
JOG_DIR 7:P9
EXT_IF9
MSDCPU_RESET
S_CLK
S_OE
S_DATA
S_STB
A_CH1_LED
A_CH2_LED
AUDIO_OUT_MUTE
A_OUT_MUTE
EXT_IF15
CAM_RST
MSD_RST
SENC_RST
CAMCPU_MD1
CAMCPU_MD2
CAMCPU_RESET
CAMCPU_RXD1
CAMCPU_TXD1
SYSCPU_MD2
SYSCPU_RESET
SYSCPU_RXD1
SYSCPU_TXD1
SYS_SENC_IN
SYS_SENC_OUT
TX_DSC
RX_DSC
TX_MAXIM
RX_MAXIM
FLASHWRT
DSC_RST
REWR_RXD
REWR_TXD
CAMCPU_MD1 1:H7
CAMCPU_MD2 1:H8
CAMCPU_RXD1 1:H8
CAMCPU_TXD1 1:H8
CAMCPU_RESET 1:H8
SYSCPU_MD2 7:E10
SYSCPU_RXD1 7:G9
SYSCPU_TXD1 7:G9
SYSCPU_RESET 7:D4
CAM_RST 7:D7
MSD_RST 7:E6
SENC_RST 7:E6
MSDCPU_RESET 1:H8
REWR_TXD 1:H8
REWR_RXD 1:H8
EXT_IF[9] 1:H8
EXMOD1
FLASHWRT 1:H8
TX_DSC 1:H9 UASO
RX_DSC 1:H9 UASI
RX_MAXIM 1:H9 UBSI
TX_MAXIM 1:H9 UBSO
SYS_SENC_OUT 1:H9 HASO
SYS_SENC_IN 1:H9 HASI
DSC_RST 1:H9
S_DATA 1:H9
S_CLK 1:H9
S_OE 1:H9
S_STB 1:H9
A_CH1_LED 9:Q8
A_CH2_LED 9:Q8
A_OUT_MUTE 9:Q9
AUDIO_OUT_MUTE 7:P4
EXT_IF[15] 1:H10
A_MUTE(MSD)
RA39 RA40 RA41 RA42 RA43 RA44 RA45 RA46 47k
RA33 RA34 RA35 47k
R546 100 MG
R547 47k
R548 47k
R2018 R2020 R2023 R2024 R2025 R2026
C287 0.0068u
C288 0.1u
C289 0.01u
C290 0.01u
C291 C292 C293 C294 0.1u
C200 C201 0.1u
+3.3V
DG
2 0 MIF

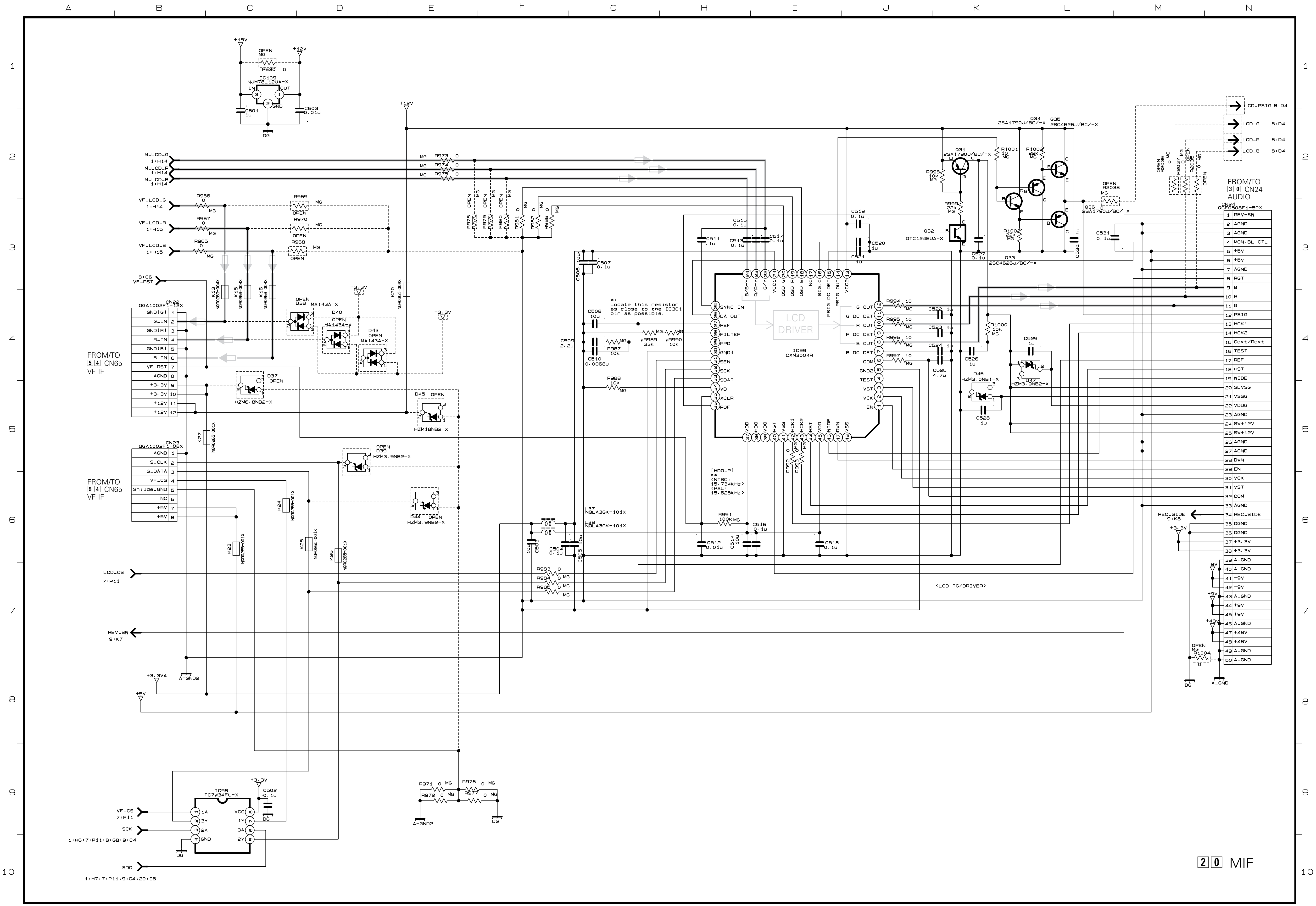
— MIF SCHEMATIC DIAGRAMS (4/7) — (SPIO)


B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
2
3
4
5
6
7
8
9
10
11
12
IC66
LC4128V75T100C2
CPLD_TDO
TEST_IN
SDO
SCK
RESET
CPLD_TDO_SP
BACK_TALLY
TEST_OUT
V_VBSEL
4094_CS
CPLD_TCK
165_SDI
165_CS
CPLD_TMS
A_CH1_AUTO_LED
A_CH2_AUTO_LED
Q15
DTC124EUA-X
Q37
DTC124EUA-X
Q914
DTA124EUA-X
Q913
DTA124EUA-X
TO
4 2 CN34
VJK
Y_SW
GND
Y/Composite
Pb
Pr
P_SW
Y_OUT 1:H15
PB_OUT 1:H15
PR_OUT 1:H15
A_GND2
2 0 MIF
FROM/TO
6 6 CN9
ZBR
FROM/TO
5 5 CN9
AWB
AUTO_WHITE
ZEBRA_L
ZEBRA_H
FROM/TO
5 8 CN10
STA
CN10
QGF0508F1-24X
HDV_LED
DV_LED
STATUS_MENU
P_SW_SIDE
ND_FILTER_L
ND_FILTER_H
USER3
USER2
USER1
VF_BRIGHT_VOL
VF_PEAKING_VOL
F_ASIST_SIDE
MONITOR_VOL
LENS_RET
LENS_TRIG
REV_SW
REC_SIDE
1394_OUT_SW
CAMCPU
M-VF_LCD
IC67
IC68
SN74AHC1G14K-X
JOG_INP
JOG_DATA
JOG_PUSH_SW
Q500
Q501
DTC124EUA-X
FROM/TO
6 4 CN48
FRL
CN48
QGF0508F1-10X
HREC_LOCK
REC_HANDLE
F_ASIST_HANDLE
FRONT_TALLY
FRONT_TALLY1
FRONT_TALLY2
FROM/TO
3 1 CN13
LINE SEL
CN13
QGF0508F1-15X
A_LOW_CUT1
A_LOW_CUT2
A_1KHZ_GATE
A_1KHZ
A_REF_LEV_SEL-12
A_MIC1_REF
A_MIC2_REF
A_INPUT1_LINE/MIC
A_INPUT2_LINE/MIC
CH2_INPUT
EJECT_LED
EJECT_SW
1KHZ_OUT
FROM/TO
3 0 CN14
AUDIO
CN14
QGF0508F1-50X
A_EE
A_MIX
A_CH1_AUTO
A_CH2_AUTO
A_ALARM_VR1
A_ALARM_VR2
LED_VTR_G
LED_VTR_R
FULL_AUTO
DISPLAY
TC/UB
TIME CODE 1
TIME CODE 2
A_SELECT_CH1
A_SELECT_CH2
LCD_BRIGHT+
LCD_BRIGHT-
LCD_ON/OFF
INPUT
WHITE BAL_H
WHITE BAL_L
GAIN_H
GAIN_L
A_OUT_MUTE
BUZZER
A_MONI_VR
METER_CH1
METER_CH2
AGND
AUDIO_OUT_L(CH1)
AUDIO_OUT_R(CH2)
AUDIO_IN_L(CH1)
AUDIO_IN_R(CH2)
LINE_OUT_L(CH1)
LINE_OUT_R(CH2)
EAR_PHONE(L)
EAR_PHONE(R)
SPEAKER_SW
FROM/TO
6 7 CN11
AJK
CN11
QGA1002F1-06X
AUDIO CH1 OUT
AUDIO CH2 OUT
FROM/TO
4 4 CN12
EAR
CN12
QGA1002F1-07X
SPEAKER_SW1
BACK TALLY CTL
D48
D49
HZM6.2ZMWA-W
Q24
DTC124EUA-X
BACK_TALLY
A_GND
DG
+3.3V
+5V

– MIF SCHEMATIC DIAGRAMS (5/7) – (CF)

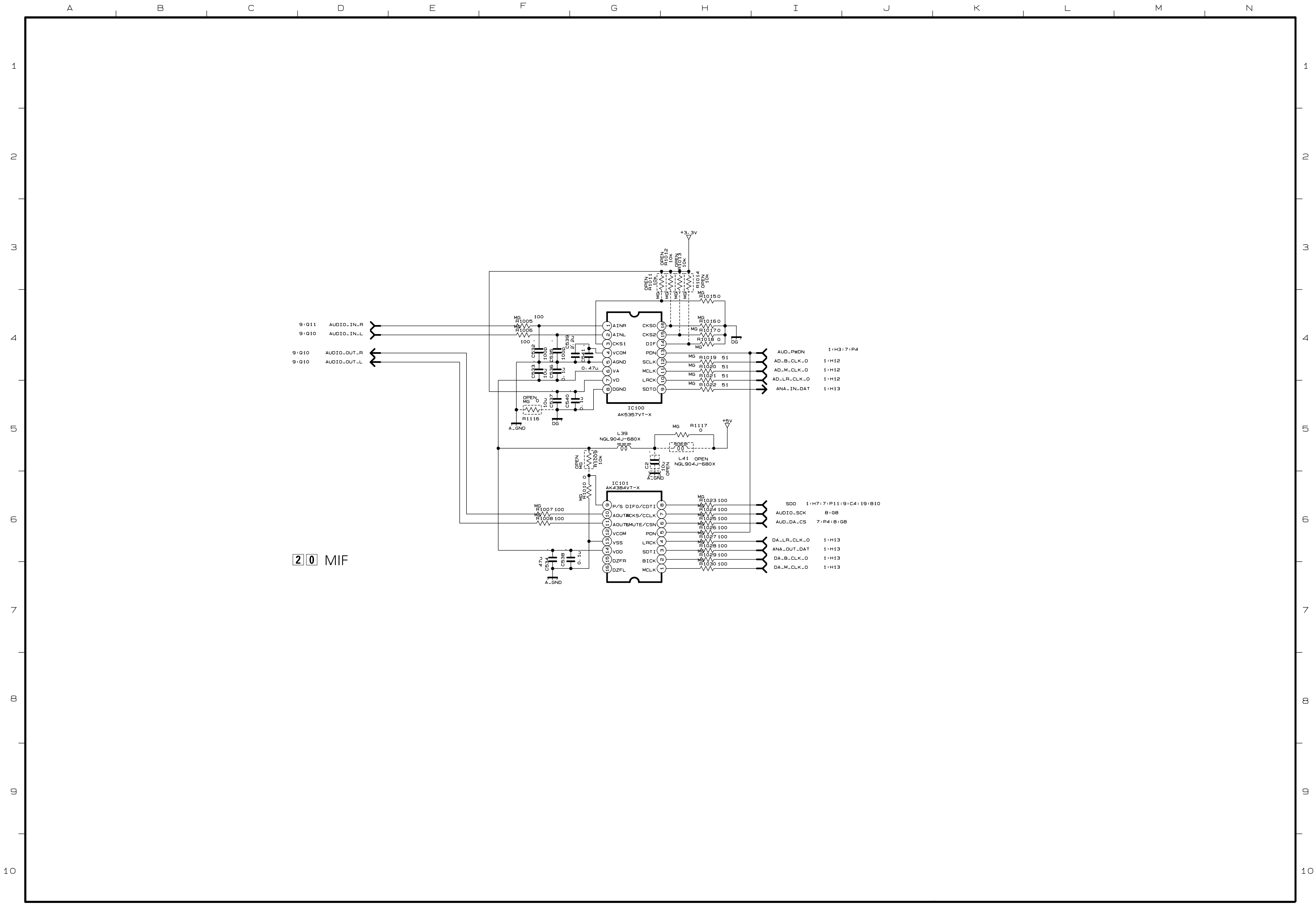

POWER
+1.8V
+2.5V
+3.3V
DG
FPGA2
1:H10 PLD_TDO
1:H10 CN_TCK
1:H10 CN_TMS
FPGA4
1:H11 FPGA4_TDO
R948 0
JIG_CON
CN24
GGF0508F1-20X
CN_TCK 1
CN_TMS 2
CN_TDI 3
CN_TDO 4
GND 5
CA_INIT 6
CA_DIN 7
CA_DP 8
CA_CCLK 9
CA_PROG 10
J-Dis 11
J-Dis 12
CP_MODE0 13
CP_MODE1 14
CP_MODE2 15
CP_SET 16
GND 17
GND 18
+2.5V 19
LED_FLBSY 20
SUP-ENC
1:H11 CA_INIT
1:H11 CA_DIN
1:H11 CA_DP
1:H11 CA_CCLK
1:H11 CA_PROG
1:H11 SE_MODE0
1:H11 SE_MODE1
1:H11 SE_SET
R949 33
R950 33
R951 33
R952 33
R953 33
R954 33
R955 33
R956 33
R1135 100k
R1136 100k
R1137 100k
R959 47k
R960 47k
VCCAUX
C492 0.1u
C493 0.1u
C494 0.1u
VCC
C495 0.1u
C496 0.1u
VCCO
C497 0.1u
C498 0.1u
C499 0.1u
C500 0.1u
IC96
XC2C256-7VQG100C
IC97
MBV160TE90PT
C501 0.1u
GEN
R1134 33
CLK_27M 1:H12
PROG 1:H12 CAMCPU
LED
R964 470 OPEN
R963 470
D36 SML-020MVT-W
Q30 DTC124EUA-X
Q29 DTC124EUA-X
DONE
VERIFY-LED
SYS_CPU
DONE 1:H10:7:M4
CPLD_RESET
R615 0
R616 0 OPEN
CPLD_RESET_A 1:H12:8:I7
CPLD_RESET_B 8:I7
D1 SML-020MVT-W
R1138 470
R1139 470
Q1 DTC124EUA-X
Q2 DTC124EUA-X
FPGA2,3,4
R957 330
R958 4.7k
R961 1k
1:H11 FP_DONE
1:H11 FP_INIT
1:H12 FP_PROG
1:H12 FP_CCLK
1:H12 FP_DOUT
FP_MODE2
20 MIF

– MIF SCHEMATIC DIAGRAMS (6/7) – (M-VF LCD)

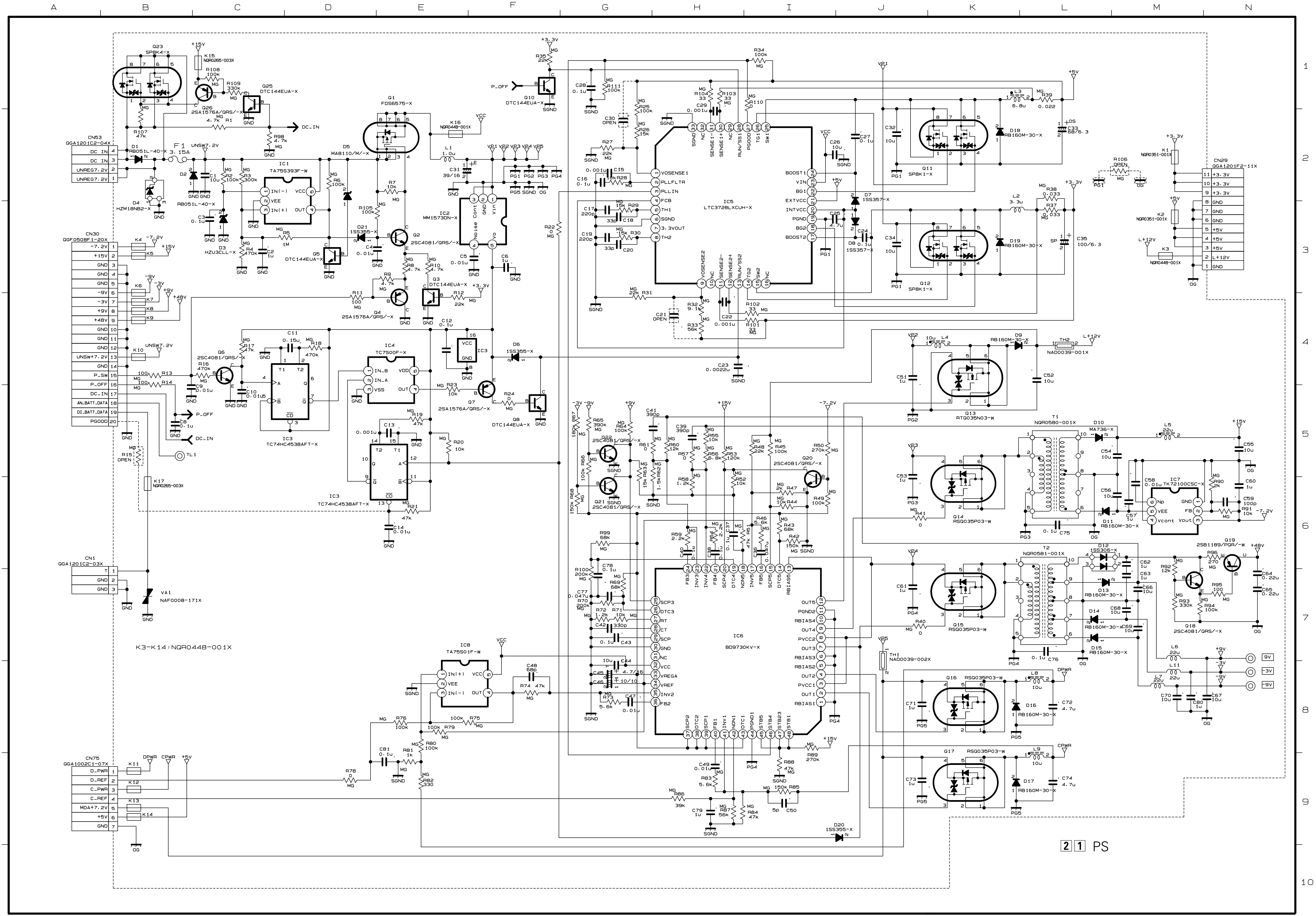


A B C D E F G H I J K L M N
1 2 3 4 5 6 7 8 9 10
+15V
+12V
OPEN MG R630 0
IC109 NJM78L12UA-X
IN OUT GND
C601 1u
C603 0.01u
DG
M_LCD_G 1:H14
M_LCD_R 1:H14
M_LCD_B 1:H14
VF_LCD_G 1:H14
VF_LCD_R 1:H15
VF_LCD_B 1:H15
R966 0 MG
R967 0 MG
R965 0 MG
R969 MG OPEN
R970 MG OPEN
R968 MG OPEN
R973 0 MG
R974 0 MG
R975 0 MG
R978 R979 R980 R981 R982 R986
8:C6 VF_RST
K13 K15 K16 NQR0269-004X
K20 NQR0351-002X
D38 OPEN MA143A-X
D40 OPEN MA143A-X
D43 OPEN MA143A-X
+3.3V
-3.3V
CN22 QGA1002F1-12X
GND(G) G_IN GND(R) R_IN GND(B) B_IN VF_RST AGND +3.3V +3.3V +12V +12V
FROM/TO 5 4 CN65 VF IF
D37 OPEN HZM6.8NB2-X
D45 OPEN HZM18NB2-X
CN23 QGA1002F1-08X
AGND S_CLK S_DATA VF_CS Shilde_GND NC +5V +5V
FROM/TO 5 4 CN65 VF IF
K27 K24 K23 K25 K26 NQR0265-001X
D39 OPEN HZM3.9NB2-X
D44 OPEN HZM3.9NB2-X
LCD_CS 7:P11
REV_SW 9:K7
+3.3VA A-GND2
+5V
IC98 TC7W34FU-X
1A 3Y 2A GND VCC 1Y 3A 2Y
C502 0.1u
VF_CS 7:P11
SCK 1:H6:7:P11:8:G8:9:C4
SDO 1:H7:7:P11:9:C4:20:I6
R971 0 MG R972 0 MG R976 0 MG R977 0 MG
A-GND2 DG
C506 10u C507 0.1u
C508 10u
C509 2.2u
C510 0.0068u
R987 10k
R988 10k MG
*: Locate this resistor as close to the IC301 pin as possible.
*R989 33k *R990 10k
C511 1u C515 0.1u C513 0.1u C517 0.1u
C519 0.1u C520 1u C521 1u
IC99 CXM3004R
LCD DRIVER
SYNC IN DA OUT REF FILTER RPD GND1 SEN SCK SDAT VD XCLR POF
B/B-Y R/R-Y G/Y VCC1 OSD G OSD R OSD B NC SIG.C PSIG DC DET PSIG OUT VCC2
G OUT G DC DET R OUT R DC DET B OUT B DC DET COM GND2 TEST VST VCK EN
VDD HDD VDD RGT VSS HCK1 HCK2 HST VDD WIDE DWN VSS
[HDD_P] ** <NTSC> 15.734kHz> <PAL> 15.625kHz>
R992 R993
L37 NQLA3GK-101X
L38 NQLA3GK-101X
C503 10u C504 0.1u C505 10u
R991 100k MG
C512 0.01u C514 10u C516 0.1u C518 0.1u
R983 0 MG R984 0 MG R985 0 MG
<LCD_TG/DRIVER>
R994 10 MG R995 10 MG R996 10 MG R997 10 MG
C522 1u C523 1u C524 1u C525 4.7u
C526 1u
R1000 10k MG
C529 1u
D46 HZM3.0NB1-X
D47 HZM3.9NB2-X
C528 1u
Q31 2SA1790J/BC/-X
R998 10k MG
R999 22k MG
Q32 DTC124EUA-X
C527 0.1u
Q34 2SA1790J/BC/-X
Q35 2SC4626J/BC/-X
R1001 10 MG
R1003 22k MG
R1002 22k MG
Q33 2SC4626J/BC/-X
C530 1u
Q36 2SA1790J/BC/-X
R2038 OPEN MG
C531 0.1u
LCD_PSIG 8:D4
LCD_G 8:D4
LCD_R 8:D4
LCD_B 8:D4
R2036 R2037 R2035 OPEN MG
FROM/TO 3 0 CN24 AUDIO
CN24 QGF0508F1-50X
1 REV-SW
2 AGND
3 AGND
4 MON.BL CTL
5 +5V
6 +5V
7 AGND
8 RGT
9 B
10 R
11 G
12 PSIG
13 HCK1
14 HCK2
15 Cext/Rext
16 TEST
17 REF
18 HST
19 WIDE
20 SLVSG
21 VSSG
22 VDDG
23 AGND
24 SW+12V
25 SW+12V
26 AGND
27 AGND
28 DWN
29 EN
30 VCK
31 VST
32 COM
33 AGND
34 REC_SIDE
35 DGND
36 DGND
37 +3.3V
38 +3.3V
39 A_GND
40 A_GND
41 -9V
42 -9V
43 A_GND
44 +9V
45 +9V
46 A_GND
47 +48V
48 +48V
49 A_GND
50 A_GND
REC_SIDE 9:K8
+3.3V -9V +9V +48V
OPEN MG R1004 0
DG A_GND
2 0 MIF

– MIF SCHEMATIC DIAGRAMS (7/7) – (AUDIO AD/DA)


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
9:Q11 AUDIO_IN_R
9:Q10 AUDIO_IN_L
9:Q10 AUDIO_OUT_R
9:Q10 AUDIO_OUT_L
MG R1005 100
MG R1006 100
C532 100p
C535 100p
C539 2.2u
C541 0.47u
C533 10u
C536 0.1u
C537 10u
C540 0.1u
OPEN MG 0 R1116
A_GND
DG
+3.3V
OPEN R1011 10k MG
OPEN R1012 10k MG
OPEN R1013 10k MG
R1014 OPEN 10k MG
MG R1015 0
MG R1016 0
MG R1017 0
R1018 0 MG
1 AINR
2 AINL
3 CKS1
4 VCOM
5 AGND
6 VA
7 VD
8 DGND
16 CKS0
15 CKS2
14 DIF
13 PDN
12 SCLK
11 MCLK
10 LRCK
9 SDTO
IC100
AK5357VT-X
MG R1019 51
MG R1020 51
MG R1021 51
MG R1022 51
AUD_PWDN 1:H3:7:P4
AD_B_CLK_O 1:H12
AD_M_CLK_O 1:H12
AD_LR_CLK_O 1:H12
ANA_IN_DAT 1:H13
L39 NQL904J-680X
MG R1117 0
+5V
L41 OPEN NQL904J-680X
C2 10u OPEN
A_GND
OPEN MG R1009 10k
MG R1010 0
IC101
AK4384VT-X
9 P/S
10 AOUTR
11 AOUTL
12 VCOM
13 VSS
14 VDD
15 DZFR
16 DZFL
8 DIF0/CDTI
7 ACKS/CCLK
6 SMUTE/CSN
5 PDN
4 LRCK
3 SDTI
2 BICK
1 MCLK
MG R1007 100
MG R1008 100
C534 47u
C538 0.1u
A_GND
MG R1023 100
MG R1024 100
MG R1025 100
MG R1026 100
MG R1027 100
MG R1028 100
MG R1029 100
MG R1030 100
SDO 1:H7:7:P11:9:C4:19:B10
AUDIO_SCK 8:G8
AUD_DA_CS 7:P4:8:G8
DA_LR_CLK_O 1:H13
ANA_OUT_DAT 1:H13
DA_B_CLK_O 1:H13
DA_M_CLK_O 1:H13
2 0 MIF

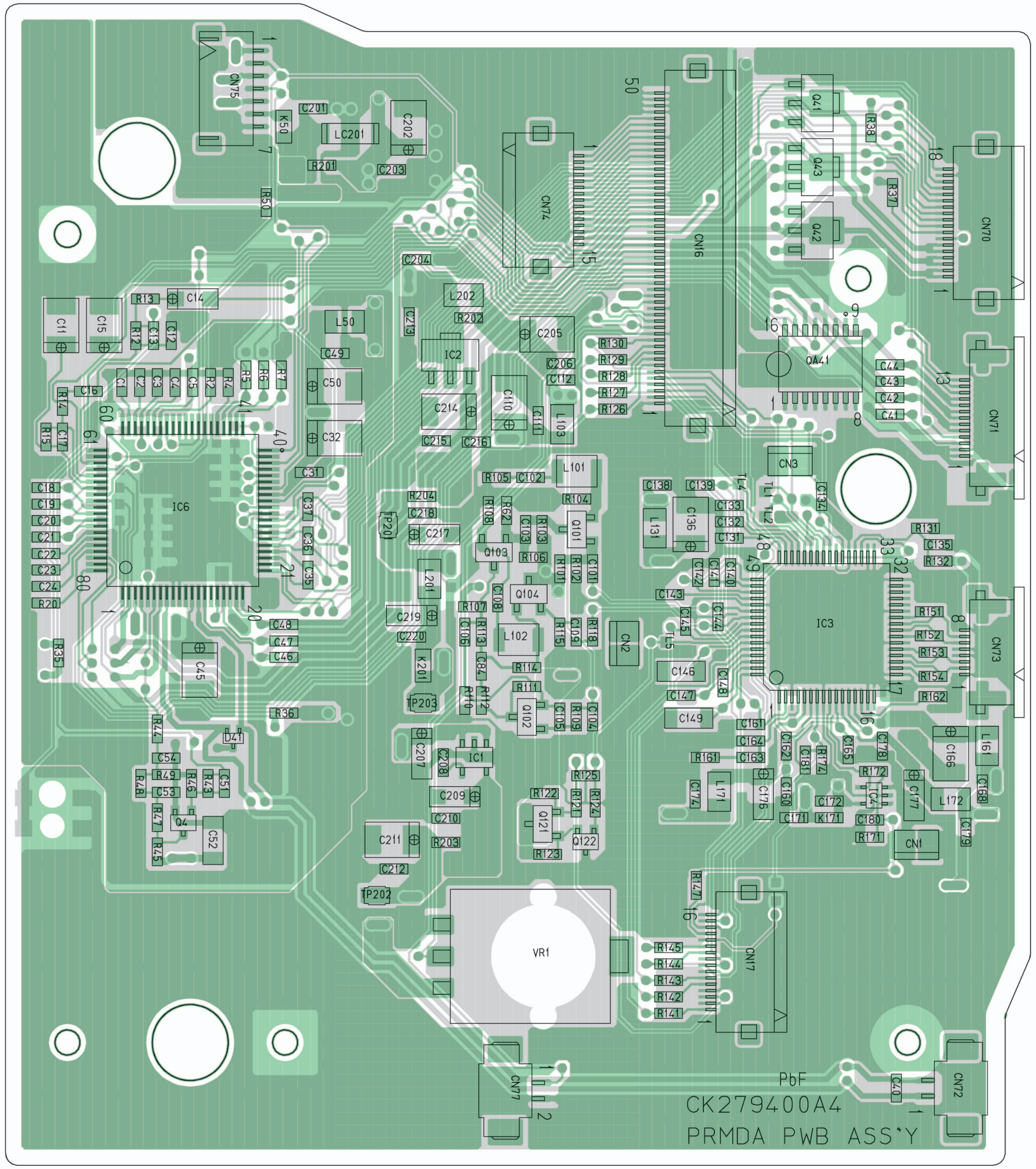
4.13 PS SCHEMATIC DIAGRAM



A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
CN53
QGA1201C2-04X
DC_IN
DC_IN
UNREG7.2V
UNREG7.2V
CN30
QGF0508F1-20X
-7.2V
+15V
GND
-9V
-3V
+9V
+48V
UNSW+7.2V
P_SW
P_OFF
DC_IN
AN_BATT_DATA
DI_BATT_DATA
PGOOD
CN1
QGA1201C2-03X
T
GND
CN75
QGA1002C1-07X
D_PWR
D_REF
C_PWR
C_REF
MDA+7.2V
+5V
GND
Q23
SPBK4-X
Q26
2SA1576A/QRS/-X
Q25
DTC144EUA-X
K15
NQR0265-003X
F1
3.15A
UNSW7.2V
D1
RB051L-40-X
D2
RB051L-40-X
D3
HZU3CLL-X
D4
HZM18NB2-X
IC1
TA75S393F-W
IN(-)
VEE
IN(+)
VCC
OUT
Q1
FDS6575-X
D5
MA8110/M/-X
K16
NQR0448-001X
L1
1.0u
C31
39/16
IC2
MM1573ON-X
Noise
Cont
GND
Vin
Vo
Q2
2SC4081/QRS/-X
Q3
DTC144EUA-X
Q4
2SA1576A/QRS/-X
Q5
DTC144EUA-X
D21
1SS355-X
DC_IN
P_OFF
Q10
DTC144EUA-X
PG1
PG2
PG3
PG4
PG5
SGND
OG
VP1
VP2
VP3
VP4
VP5
VCC
+3.3V
+15V
+5V
+12V
L+12V
-7.2V
Q6
2SC4081/QRS/-X
IC3
TC74HC4538AFT-X
T1
T2
IC4
TC7S00F-X
IN_B
IN_A
VSS
VDD
OUT
Q7
2SA1576A/QRS/-X
Q8
DTC144EUA-V
D6
1SS355-X
TL1
R15
OPEN
K17
NQR0265-003X
VA1
NAF0008-171X
K3-K14:NQR0448-001X
IC5
LTC3728LXCUH-X
VOSENSE1
PLLFLTR
PLLIN
FCB
ITH1
SGND
3.3VOUT
ITH2
BOOST1
VIN
BG1
EXTVCC
INTVCC
PGND
BG2
BOOST2
SENSE1-
SENSE1+
RUN/SS1
PGOOD
TG1
SW1
VOSENSE2
SENSE2-
SENSE2+
RUN/SS2
TG2
SW2
NC
C30
OPEN
C21
OPEN
D7
1SS357-X
D8
1SS357-X
Q11
SPBK1-X
Q12
SPBK1-X
L3
6.8u
L2
3.3u
R39
0.022
R37
0.033
D18
RB160M-30-X
D19
RB160M-30-X
C33
68/6.3
C35
100/6.3
SP
OS
R106
OPEN
K1
NQR0351-001X
K2
NQR0351-001X
K3
NQR0448-001X
CN29
QGA1201F2-11X
+3.3V
GND
+5V
L+12V
L4
10u
D9
RB160M-30-X
TH2
NAD0039-001X
Q13
RTQ035N03-W
T1
NQR0580-001X
D10
MA736-X
L5
22u
Q14
RSQ035P03-W
D11
RB160M-30-X
IC7
TK72100CSC-X
Np
VEE
Vcont
Vout
GND
FB
Q19
2SB1189/PQR/-W
T2
NQR0581-001X
D12
1SS306-X
D13
RB160M-30-X
D14
RB160M-30-X
D15
RB160M-30-X
Q15
RSQ035P03-W
Q18
2SC4081/QRS/-X
L6
22u
L11
22u
L7
22u
9V
-3V
-9V
Q20
2SC4081/QRS/-X
Q21
2SC4081/QRS/-X
Q22
2SC4081/QRS/-X
IC6
BD9730KV-X
SCP3
DTC3
RT
CT
SCP
GND
NC
VCC
VREGA
VREF
INV2
FB2
OUT5
PGND2
RBIAS4
OUT4
PVCC2
OUT3
RBIAS3
RBIAS2
OUT2
PVCC1
OUT1
RBIAS1
TH1
NAD0039-002X
Q16
RSQ035P03-W
D16
RB160M-30-X
L8
10u
DPWR
Q17
RSQ035P03-W
D17
RB160M-30-X
L9
10u
CPWR
IC8
TA75S01F-W
D20
1SS355-X
2 1 PS

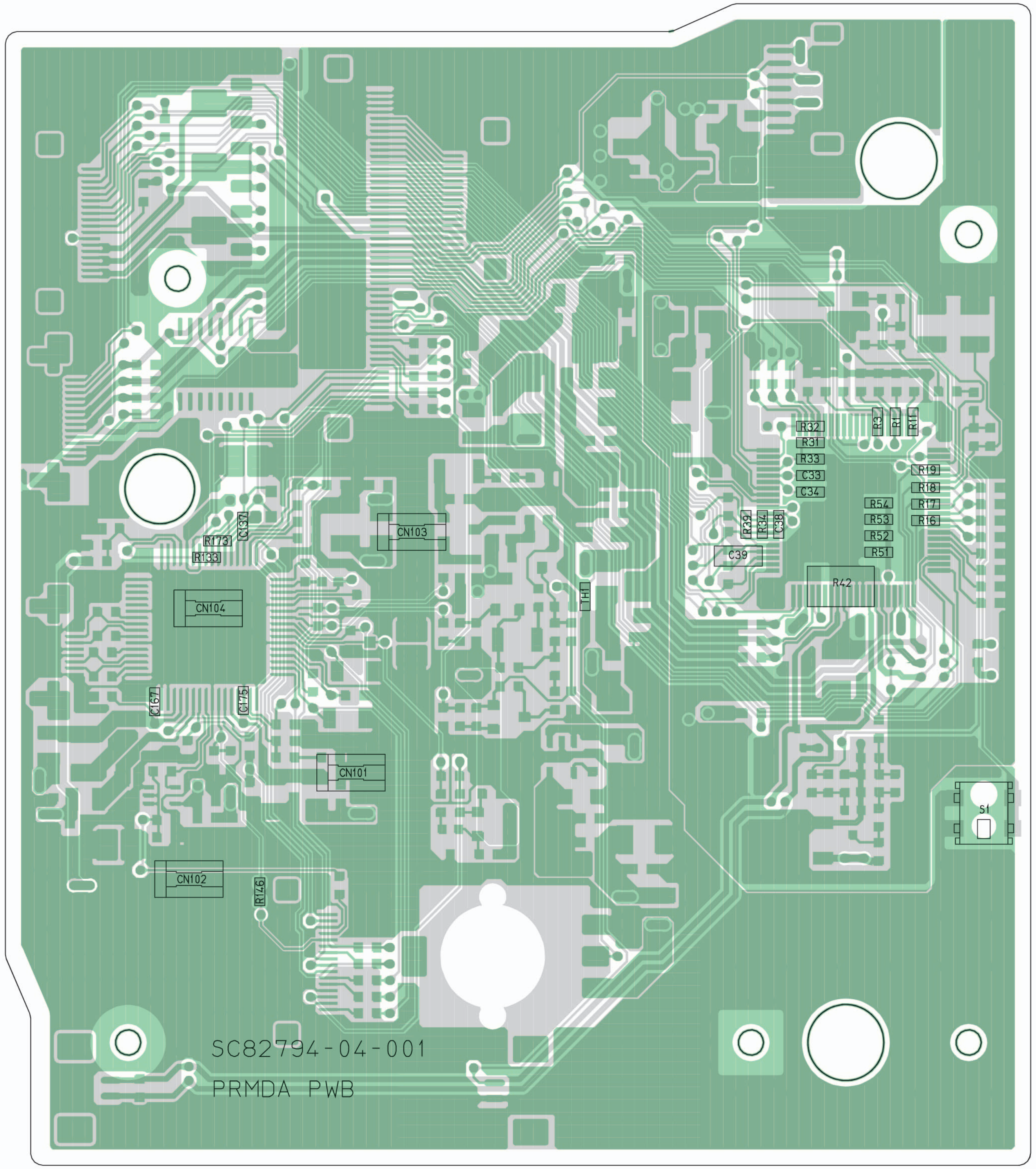
4.14 PRMDA CIRCUIT BOARD

– SIDE A –



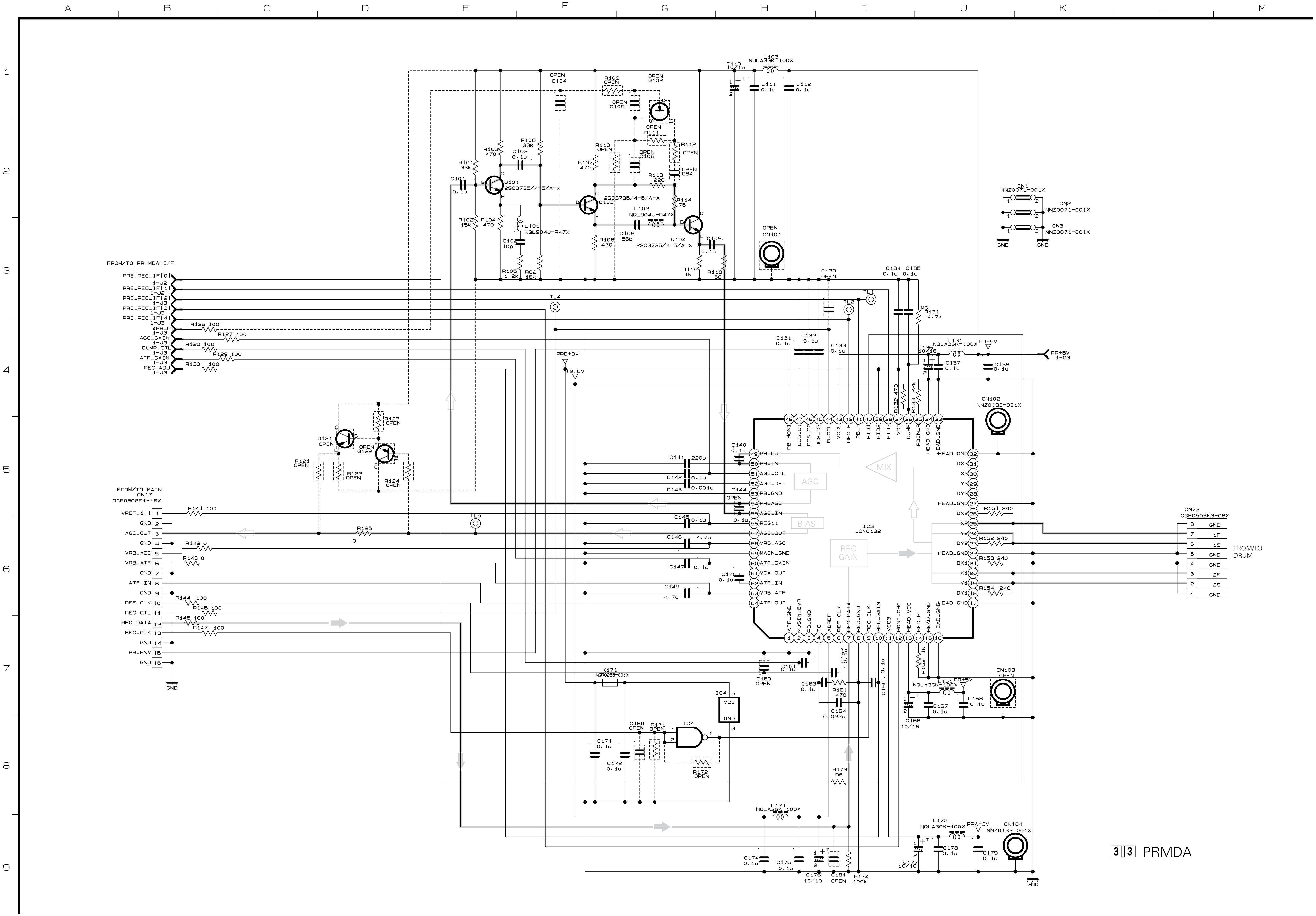
PbF
CK279400A4
PRMDA PWB ASS'Y
IC6
IC3
IC2
IC1
VR1
CN1
CN2
CN3
CN7
CN16
CN17
CN70
CN71
CN72
CN73
CN74
CN75

– SIDE B –



SC82794-04-001
PRMDA PWB
CN101
CN102
CN103
CN104
S1
R42

4.15 PRMDA SCHEMATIC DIAGRAMS (1/3)



A
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I
J
K
L
M
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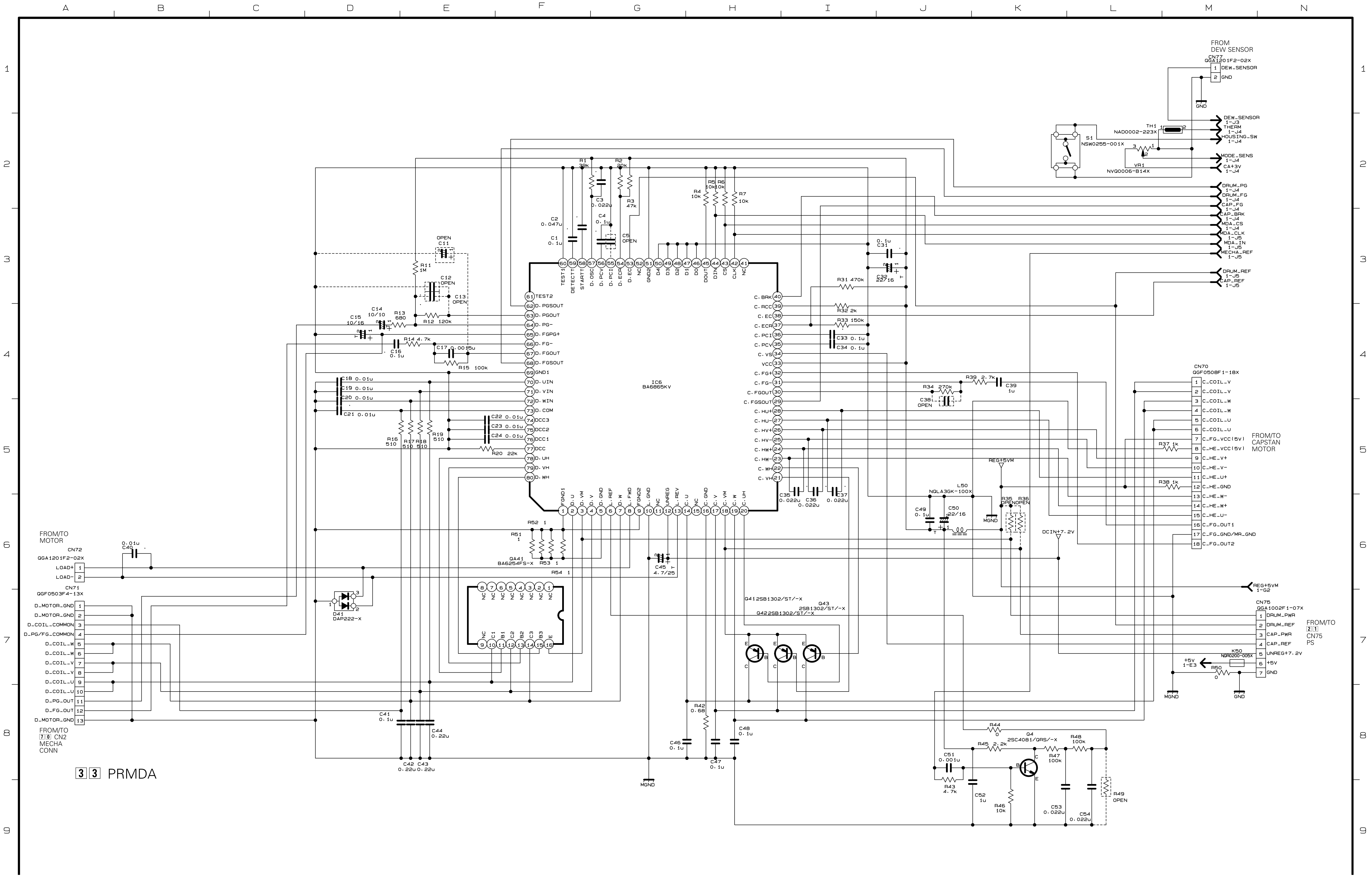
2
3
4
5
6
7
8
9
FROM/TO PR-MDA-I/F
PRE_REC_IF[0]
PRE_REC_IF[1]
PRE_REC_IF[2]
PRE_REC_IF[3]
PRE_REC_IF[4]
APH_C
AGC_GAIN
DUMP_CTL
ATF_GAIN
REC_ADJ
1-J2
1-J3
R126 100
R127 100
R128 100
R129 100
R130 100
Q101 2SC3735/4-5/A-X
Q103 2SC3735/4-5/A-X
Q104 2SC3735/4-5/A-X
Q102 OPEN
R101 33k
R102 15k
R103 470
R104 470
R105 1.2k
R106 33k
R62 15k
R107 470
R108 470
R109 OPEN
R110 OPEN
R111
R112 OPEN
R113 220
R114 75
R115 1k
R118 56
C101 0.1u
C102 10p
C103 0.1u
C104 OPEN
C105 OPEN
C106 OPEN
C84 OPEN
C108 56p
C109 0.1u
L101 NQL904J-R47X
L102 NQL904J-R47X
C110 10/16
L103 NQLA3GK-100X
C111 0.1u
C112 0.1u
CN101 OPEN
C139 OPEN
C134 0.1u
C135 0.1u
R131 4.7k
TL1
TL2
TL4
TL5
C131 0.1u
C132 0.1u
C133 0.1u
L131 NQLA3GK-100X
C136 10/16
C137 0.1u
C138 0.1u
PR+5V
PR+5V 1-G3
PRD+3V
+2.5V
R132 470
R133 22k
CN1 NNZ0071-001X
CN2 NNZ0071-001X
CN3 NNZ0071-001X
GND
CN102 NNZ0133-001X
Q121 OPEN
Q122 OPEN
R121 OPEN
R122 OPEN
R123 OPEN
R124 OPEN
FROM/TO MAIN CN17 QGF0508F1-16X
VREF_1.1
GND
AGC_OUT
VRB_AGC
VRB_ATF
ATF_IN
REF_CLK
REC_CTL
REC_DATA
REC_CLK
PB_ENV
R141 100
R142 0
R143 0
R125 0
R144 100
R145 100
R146 100
R147 100
C140 0.1u
C141 220p
C142 0.1u
C143 0.001u
C144 OPEN
C145 0.1u
C146 4.7u
C147 0.1u
C148 0.1u
C149 4.7u
IC3 JCY0132
PB_OUT
PB_IN
AGC_CTL
AGC_DET
PB_GND
PREAGC
AGC_IN
REG11
AGC_OUT
VRB_AGC
MAIN_GND
ATF_GAIN
VCA_OUT
ATF_IN
VRB_ATF
ATF_OUT
PB_MONI
DCS_C1
DCS_C2
DCS_C3
R_CTL
VCC5
REC_H
PB_H
HID1
HID2
HID3
VDD
DUMP
PBIN_R
HEAD_GND
DX3
X3
Y3
DY3
DX2
X2
Y2
DY2
DX1
X1
Y1
DY1
ATF_GND
MUSIN_EVR
TC
ADREF
REF_CLK
REC_DATA
REC_GND
REC_CLK
REC_GAIN
VCC3
MONI_CHG
HEAD_VCC
REC_R
MIX
AGC
BIAS
REC GAIN
R151 240
R152 240
R153 240
R154 240
CN73 QGF0503F3-08X
1F
1S
2F
2S
FROM/TO DRUM
R162 1k
C160 OPEN
C161 0.1u
C162 0.1u
C163 0.1u
R161 470
C164 0.022u
C165 0.1u
L161 NQLA3GK-100X
C166 10/16
C167 0.1u
C168 0.1u
CN103 OPEN
K171 NQR0265-001X
IC4
VCC
C171 0.1u
C172 0.1u
C180 OPEN
R171 OPEN
R172 OPEN
R173 56
L171 NQLA3GK-100X
C174 0.1u
C175 0.1u
C176 10/10
C181 OPEN
R174 100k
L172 NQLA3GK-100X
PRA+3V
C177 10/10
C178 0.1u
C179 0.1u
CN104 NNZ0133-001X
3 3 PRMDA

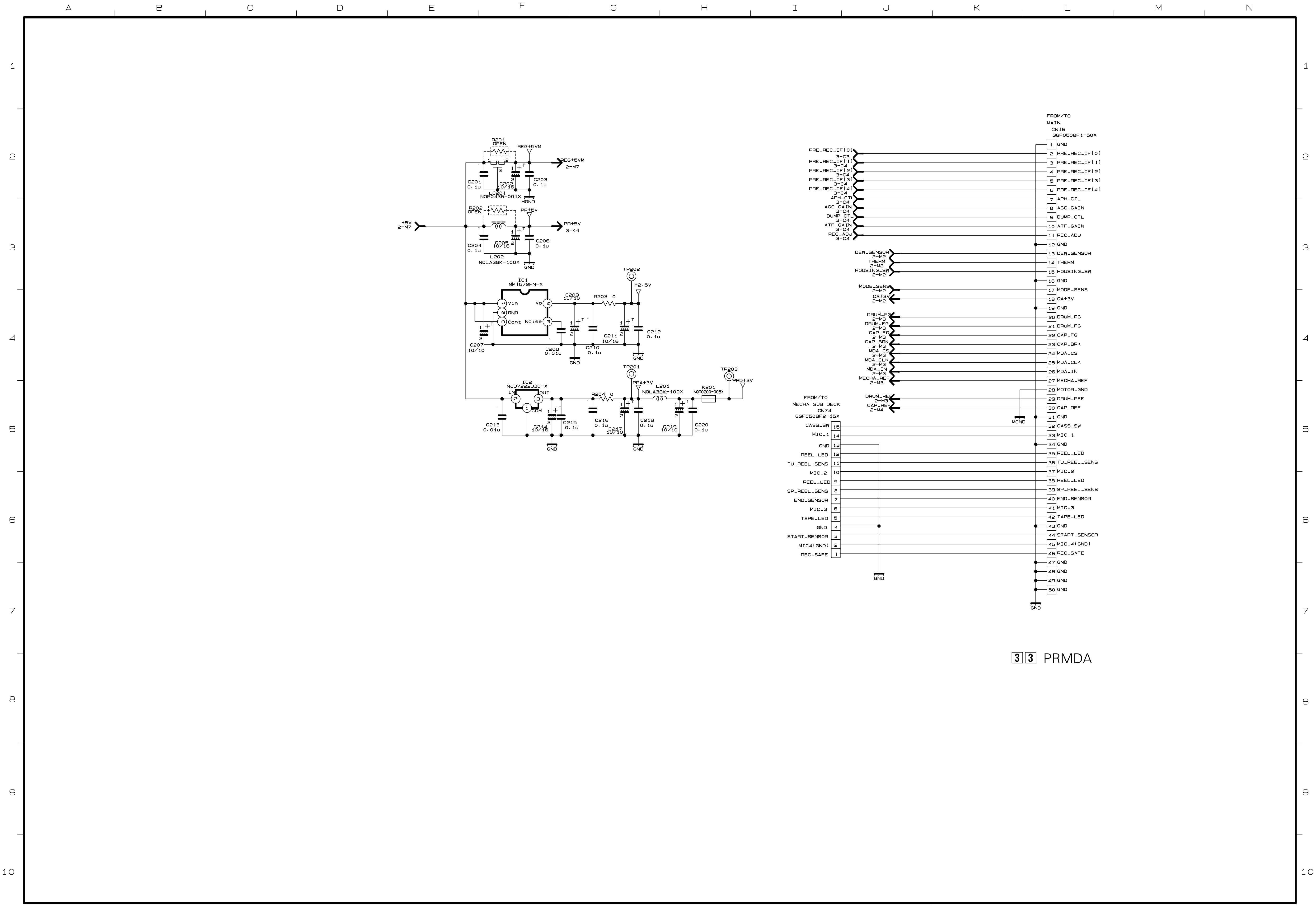
— PRMDA SCHEMATIC DIAGRAMS (2/3) —



A B C D E F G H I J K L M N
1 2 3 4 5 6 7 8 9
FROM DEW SENSOR
CN77 QGA1201F2-02X
1 DEW_SENSOR
2 GND
GND
DEW_SENSOR 1-J3
THERM 1-J4
HOUSING_SW 1-J4
MODE_SENS 1-J4
CA+3V 1-J4
TH1 NAD0002-223X
S1 NSW0255-001X
VR1 NVQ0006-B14X
DRUM_PG 1-J4
DRUM_FG 1-J4
CAP_FG 1-J4
CAP_BRK 1-J4
MDA_CS 1-J5
MDA_CLK 1-J5
MDA_IN 1-J5
MECHA_REF 1-J5
DRUM_REF 1-J5
CAP_REF 1-J5
R1 39k
R2 20k
R3 47k
C3 0.022u
C4 0.1u
C5 OPEN
C2 0.047u
C1 0.1u
R4 10k
R5 10k
R6 10k
R7 10k
C31 0.1u
C32 22/16
R31 470k
R32 2k
R33 150k
C33 0.1u
C34 0.1u
R34 270k
R39 2.7k
C39 1u
C38 OPEN
OPEN C11
R11 1M
C12 OPEN
C13 OPEN
C14 10/10
R13 680
C15 10/16
R12 120k
R14 4.7k
C16 0.1u
C17 0.0015u
R15 100k
C18 0.01u
C19 0.01u
C20 0.01u
C21 0.01u
C22 0.01u
C23 0.01u
C24 0.01u
R16 510
R17 510
R18 510
R19 510
R20 22k
IC6 BA6865KV
TEST1 DETECT1 START1 D.OSC D.PCV D.PCI D.ECR D.EC NC GND2 D4 D3 D2 D1 D0 DOUT DIN CS CLK NC
TEST2 D.PGSOUT D.PGOUT D.PG- D.FGPG+ D.FG- D.FGOUT D.FGSOUT GND1 D.UIN D.VIN D.WIN D.COM DCC3 DCC2 DCC1 DCC D.UH D.VH D.WH
C.BRK C.RCC C.EC C.ECR C.PCI C.PCV C.VS VCC C.FG+ C.FG- C.FGOUT C.FGSOUT C.HU+ C.HU- C.HV+ C.HV- C.HW+ C.HW- C.WH C.VH
PGND1 D.U D.VM D.V D.GND D.W FWD PGND2 L.GND NC UNREG L.REV C.U NC C.GND C.V C.VM C.W C.UH
C35 0.022u
C36 0.022u
C37 0.022u
REG+5VM
L50 NQL43GK-100X
C49 0.1u
C50 22/16
R35 OPEN
R36 OPEN
MGND
DCIN+7.2V
CN70 QGF0508F1-18X
1 C_COIL_V
2 C_COIL_V
3 C_COIL_W
4 C_COIL_W
5 C_COIL_U
6 C_COIL_U
7 C_FG_VCC(5V)
8 C_HE_VCC(5V)
9 C_HE_V+
10 C_HE_V-
11 C_HE_U+
12 C_HE_GND
13 C_HE_W-
14 C_HE_W+
15 C_HE_U-
16 C_FG_OUT1
17 C_FG_GND/MR_GND
18 C_FG_OUT2
FROM/TO CAPSTAN MOTOR
R37 1k
R38 1k
REG+5VM 1-G2
CN75 QGA1002F1-07X
1 DRUM_PWR
2 DRUM_REF
3 CAP_PWR
4 CAP_REF
5 UNREG+7.2V
6 +5V
7 GND
FROM/TO 2 1 CN75 PS
K50 NQR0200-005X
+5V 1-E3
R50 0
MGND
GND
FROM/TO MOTOR
CN72 QGA1201F2-02X
LOAD+ 1
LOAD- 2
C40 0.01u
CN71 QGF0503F4-13X
D_MOTOR_GND 1
D_MOTOR_GND 2
D_COIL_COMMON 3
D_PG/FG_COMMON 4
D_COIL_W 5
D_COIL_W 6
D_COIL_V 7
D_COIL_V 8
D_COIL_U 9
D_COIL_U 10
D_PG_OUT 11
D_FG_OUT 12
D_MOTOR_GND 13
FROM/TO 7 0 CN2 MECHA CONN
D41 DAP222-X
R52 1
R51 1
QA41 BA6254FS-X
R53 1
R54 1
C45 4.7/25
8 7 6 5 4 3 2 1
NC NC NC NC NC NC NC NC
NC C1 B1 C2 B2 C3 B3 E
9 10 11 12 13 14 15 16
Q41 2SB1302/ST/-X
Q43 2SB1302/ST/-X
Q42 2SB1302/ST/-X
E B C
C41 0.1u
C44 0.22u
C42 0.22u
C43 0.22u
R42 0.68
C46 0.1u
C47 0.1u
C48 0.1u
MGND
R44 0
Q4 2SC4081/QRS/-X
R45 2.2k
R47 100k
R48 100k
C51 0.001u
R43 4.7k
C52 1u
R46 10k
C53 0.022u
C54 0.022u
R49 OPEN

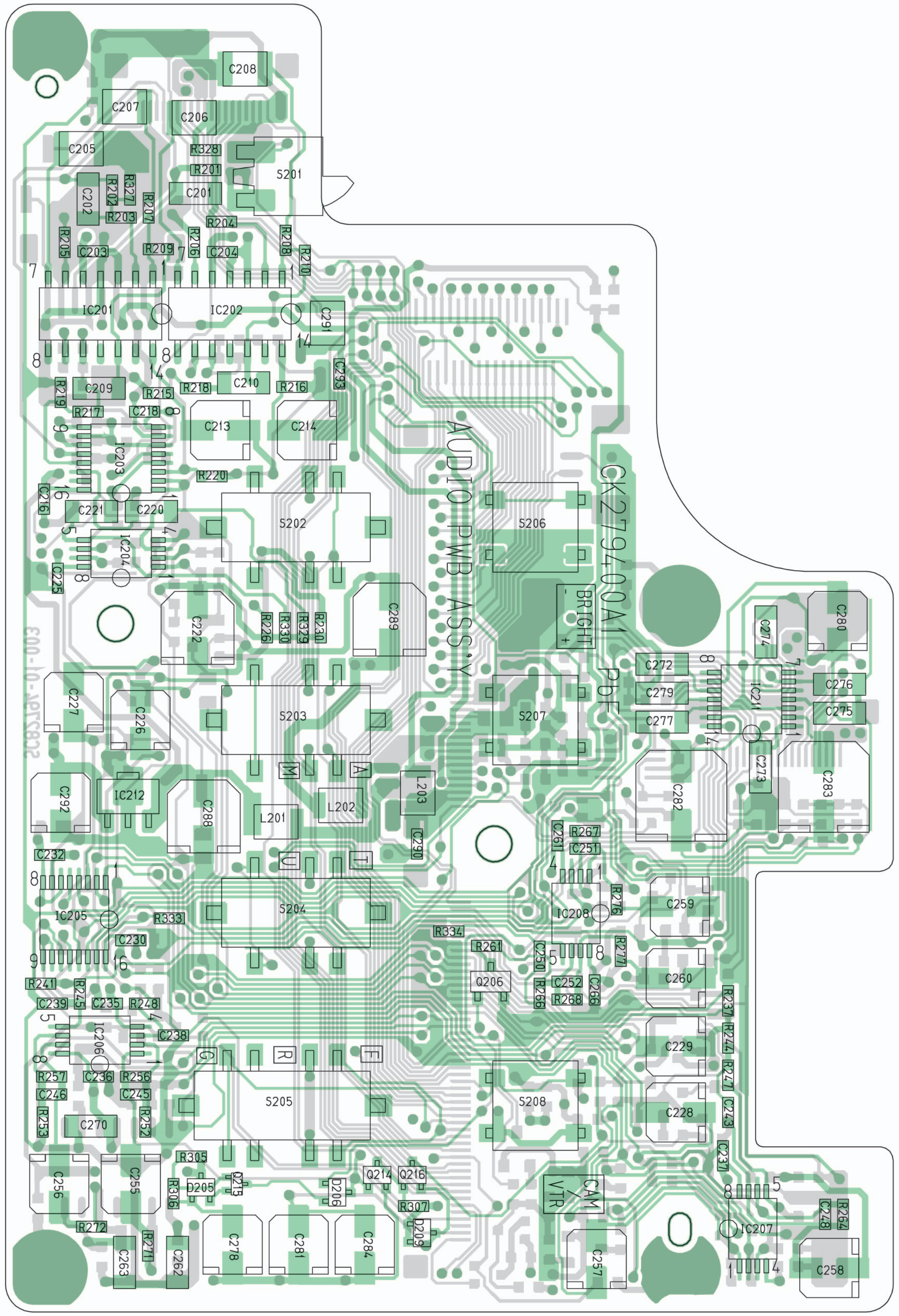
3 3 PRMDA

— PRMDA SCHEMATIC DIAGRAMS (3/3) —

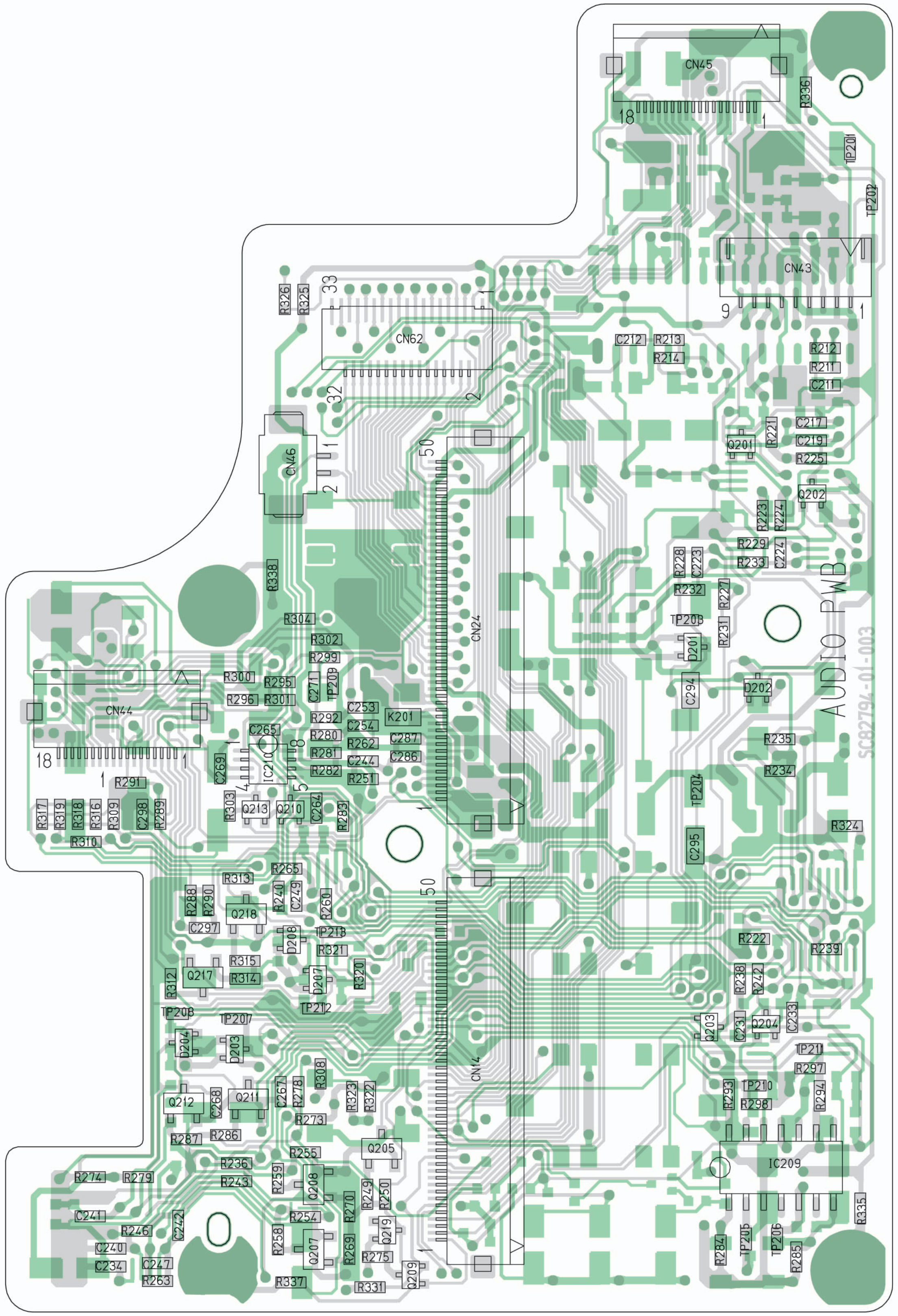

A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
R201
OPEN
REG+5VM
REG+5VM
2-M7
C201
0.1u
C202
10/16
LC201
NQR0436-001X
C203
0.1u
MGND
R202
OPEN
PR+5V
+5V
2-M7
PR+5V
3-K4
C204
0.1u
C205
10/16
C206
0.1u
L202
NQLA3GK-100X
GND
IC1
MM1572FN-X
Vin
GND
Cont
Vo
Noise
C207
10/10
C208
0.01u
C209
10/10
C210
0.1u
R203 0
C211
10/16
C212
0.1u
TP202
+2.5V
GND
IC2
NJU7222U30-X
IN
OUT
COM
C213
0.01u
C214
10/16
C215
0.1u
R204 0
C216
0.1u
C217
10/10
TP201
PRA+3V
L201
NQLA3GK-100X
C218
0.1u
C219
10/10
C220
0.1u
K201
NQR0200-005X
TP203
PRD+3V
FROM/TO
MAIN
CN16
QGF0508F1-50X
PRE_REC_IF[0] 3-C3
PRE_REC_IF[1] 3-C4
PRE_REC_IF[2] 3-C4
PRE_REC_IF[3] 3-C4
PRE_REC_IF[4] 3-C4
APH_CTL 3-C4
AGC_GAIN 3-C4
DUMP_CTL 3-C4
ATF_GAIN 3-C4
REC_ADJ 3-C4
DEW_SENSOR 2-M2
THERM 2-M2
HOUSING_SW 2-M2
MODE_SENS 2-M2
CA+3V 2-M2
DRUM_PG 2-M3
DRUM_FG 2-M3
CAP_FG 2-M3
CAP_BRK 2-M3
MDA_CS 2-M3
MDA_CLK 2-M3
MDA_IN 2-M3
MECHA_REF 2-M3
DRUM_REF 2-M3
CAP_REF 2-M4
1 GND
2 PRE_REC_IF[0]
3 PRE_REC_IF[1]
4 PRE_REC_IF[2]
5 PRE_REC_IF[3]
6 PRE_REC_IF[4]
7 APH_CTL
8 AGC_GAIN
9 DUMP_CTL
10 ATF_GAIN
11 REC_ADJ
12 GND
13 DEW_SENSOR
14 THERM
15 HOUSING_SW
16 GND
17 MODE_SENS
18 CA+3V
19 GND
20 DRUM_PG
21 DRUM_FG
22 CAP_FG
23 CAP_BRK
24 MDA_CS
25 MDA_CLK
26 MDA_IN
27 MECHA_REF
28 MOTOR_GND
29 DRUM_REF
30 CAP_REF
31 GND
32 CASS_SW
33 MIC_1
34 GND
35 REEL_LED
36 TU_REEL_SENS
37 MIC_2
38 REEL_LED
39 SP_REEL_SENS
40 END_SENSOR
41 MIC_3
42 TAPE_LED
43 GND
44 START_SENSOR
45 MIC_4(GND)
46 REC_SAFE
47 GND
48 GND
49 GND
50 GND
MGND
GND
FROM/TO
MECHA SUB DECK
CN74
QGF0508F2-15X
CASS_SW 15
MIC_1 14
GND 13
REEL_LED 12
TU_REEL_SENS 11
MIC_2 10
REEL_LED 9
SP_REEL_SENS 8
END_SENSOR 7
MIC_3 6
TAPE_LED 5
GND 4
START_SENSOR 3
MIC4(GND) 2
REC_SAFE 1
GND
3 3 PRMDA

4.16 AUDIO CIRCUIT BOARD

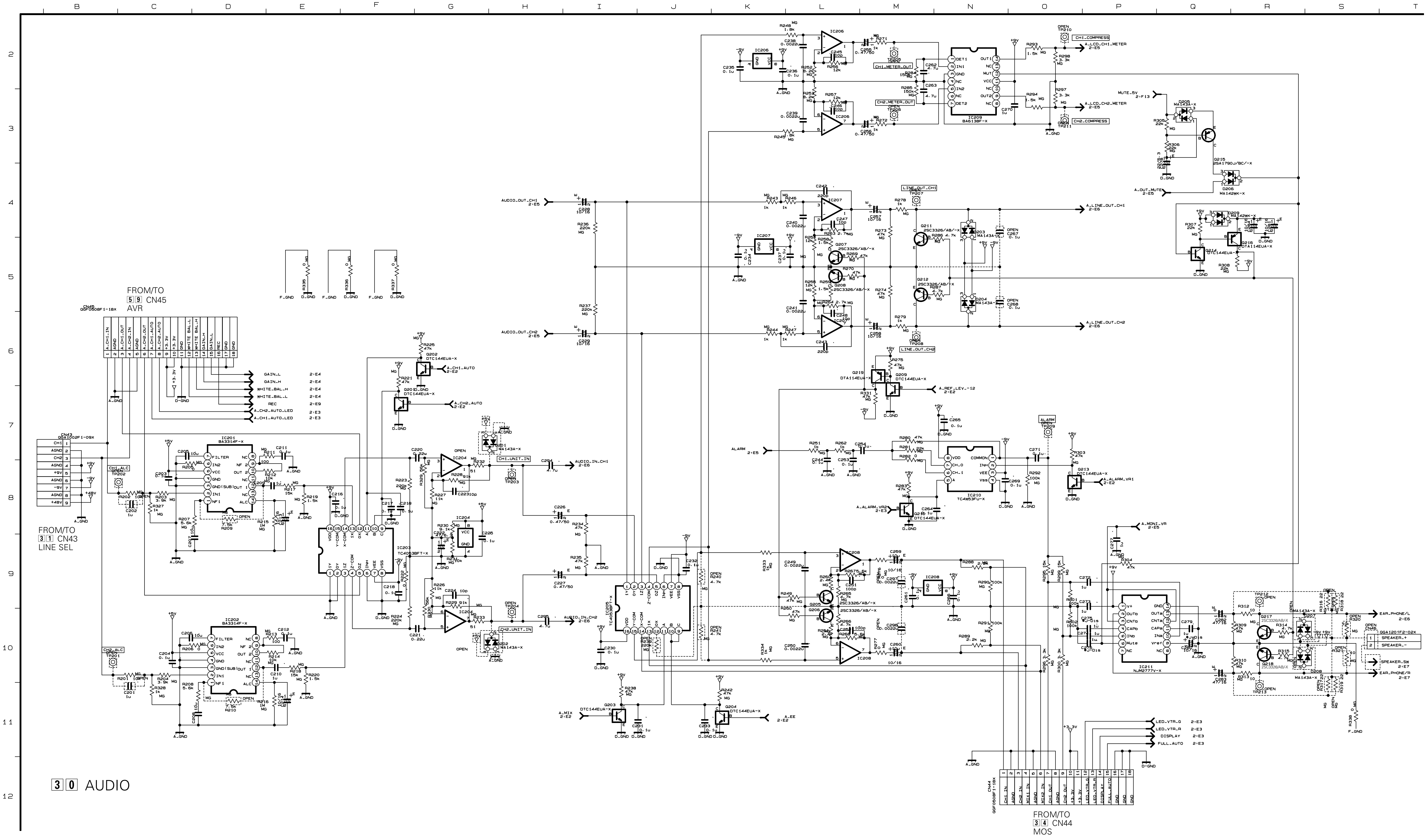
— SIDE A —


AUDIO PWB ASS'Y
CK27940A1
PbF
BRIGHT
IC201
IC202
IC203
IC204
IC205
IC206
IC207
IC208
IC211
IC212
S201
S202
S203
S204
S205
S206
S207
S208
L201
L202
L203
Q206
Q214
Q216
CAM
VTR

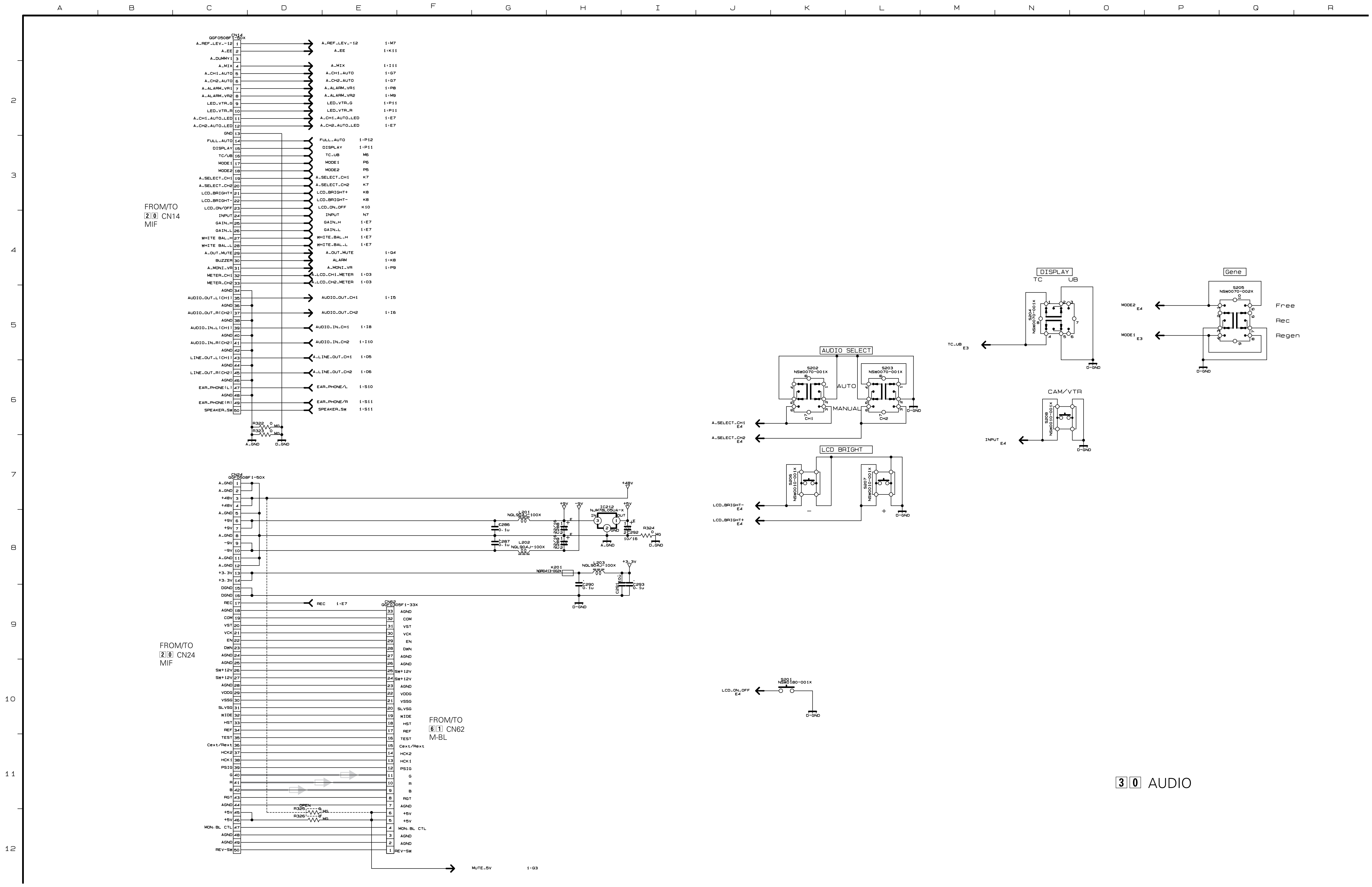
— SIDE B —


AUDIO PWB
SC82794-01-003
CN45
CN43
CN62
CN46
CN44
CN24
CN14
IC209
IC210
Q201
Q202
Q204
Q205
Q207
Q208
Q210
Q211
Q212
Q213
Q217
Q218
Q219
K201

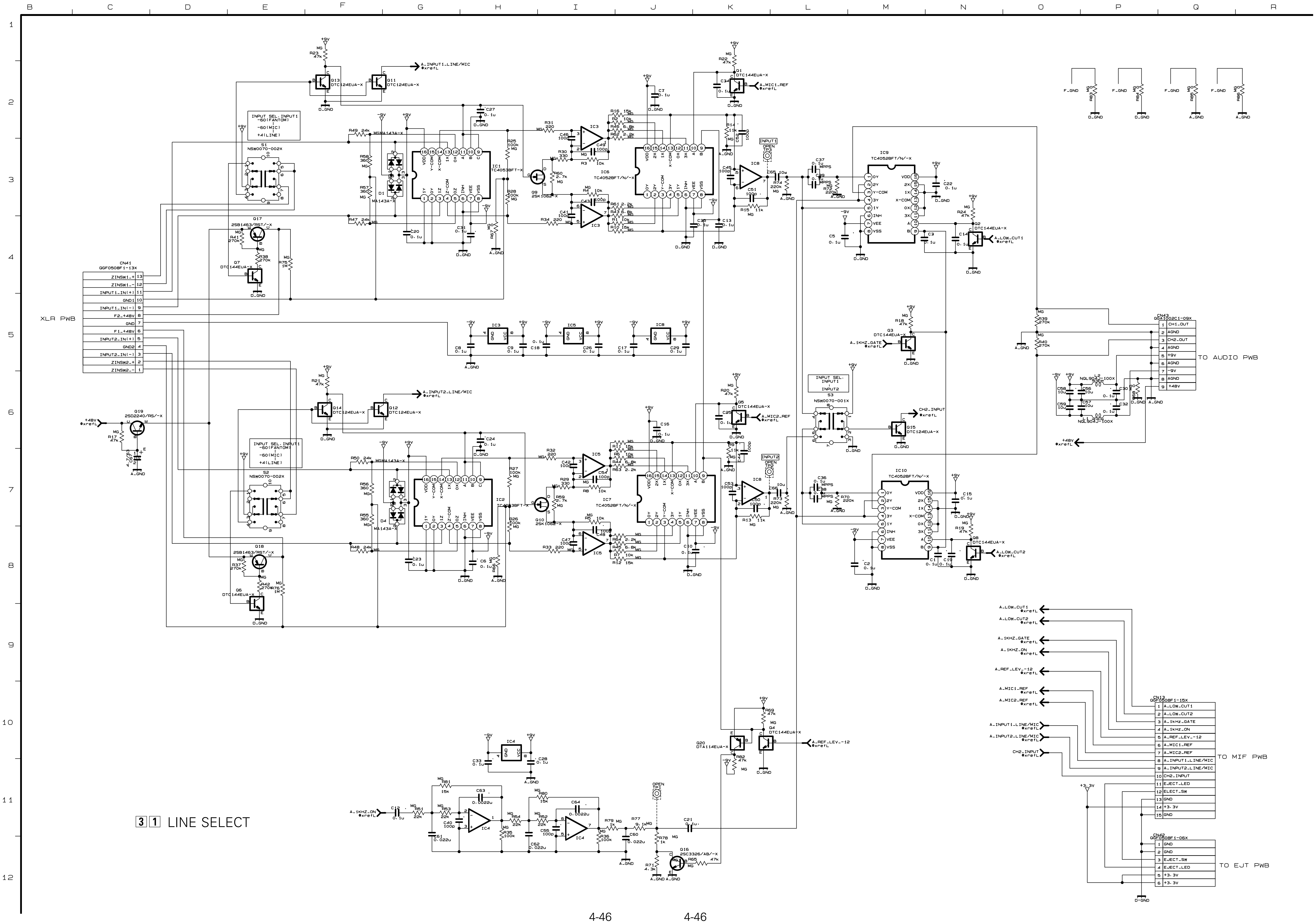
4.17 AUDIO SCHEMATIC DIAGRAMS (1/2)


B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
2
3
4
5
6
7
8
9
10
11
12
FROM/TO
5 9 CN45
AVR
CN45
QGF0508F1-18X
A_CH1_IN
AGND
A_CH1_OUT
A_CH2_IN
AGND
A_CH2_OUT
A_CH1_AUTO
A_CH2_AUTO
+9V
+3.3V
+3.3V
GND
WHITE_BAL_L
WHITE_BAL_H
GAIN_L
GAIN_H
REC
GND
GAIN_L 2:E4
GAIN_H 2:E4
WHITE_BAL_H 2:E4
WHITE_BAL_L 2:E4
REC 2:E9
A_CH2_AUTO_LED 2:E3
A_CH1_AUTO_LED 2:E3
CN43
QGA1002F1-09X
CH1
AGND
CH2
AGND
+9V
AGND
-9V
AGND
+48V
FROM/TO
3 1 CN43
LINE SEL
CH1_ALC
TP202
CH2_ALC
TP201
IC201
BA3314F-X
IC202
BA3314F-X
FILTER
IN2
VCC
GND
GND(SUB)
IN1
NF1
NF 2
OUT 2
OUT 1
ALC
R335
R336
R337
F_GND
D_GND
IC203
TC4053BFT-X
IC204
IC205
TC4053BFT-X
AUDIO_OUT_CH1 2:E5
AUDIO_OUT_CH2 2:E5
AUDIO_IN_CH1 2:E6
AUDIO_IN_CH2 2:E6
CH1_UNIT_IN
CH2_UNIT_IN
TP203
TP204
D201 MA143A-X
D202 MA143A-X
Q201 DTC144EUA-X
Q202 DTC144EUA-X
A_CH1_AUTO 2:E2
A_CH2_AUTO 2:E2
A_MIX 2:E2
A_EE 2:E2
Q203 DTC144EUA-X
Q204 DTC144EUA-X
IC206
IC207
IC208
IC209
BA6138F-X
DET1
IN1
GND
NC
IN2
NC
DET2
OUT1
MUT
VCC
OUT2
CH1_METER_OUT
CH2_METER_OUT
TP205
TP206
TP210
TP211
CH1_COMPRESS
CH2_COMPRESS
A_LCD_CH1_METER 2:E5
A_LCD_CH2_METER 2:E5
MUTE_5V 2:F13
D205 MA143A-X
D206 MA142WK-X
Q215 2SA1790J/BC/-X
A_OUT_MUTE 2:E5
D209 MA142WK-X
Q214 DTC144EUA-X
Q216 DTA114EUA-X
LINE_OUT_CH1
LINE_OUT_CH2
TP207
TP208
A_LINE_OUT_CH1 2:E6
A_LINE_OUT_CH2 2:E6
Q207 2SC3326/AB/-X
Q208 2SC3326/AB/-X
Q211 2SC3326/AB/-X
Q212 2SC3326/AB/-X
D203 MA143A-X
D204 MA143A-X
Q219 DTA114EUA-X
Q209 DTC144EUA-X
A_REF_LEV_-12 2:E2
ALARM 2:E5
ALARM
TP209
IC210
TC4W53FU-X
COMMON
INH
VEE
VSS
VDD
CH_0
CH_1
A
Q210 DTC144EUA-X
A_ALARM_VR2 2:E3
Q213 DTC144EUA-X
A_ALARM_VR1 2:E2
A_MONI_VR 2:E5
IC211
NJM2777V-X
V+
OUTb
CNTb
CAPb
INb
Mute
NC
GND
OUTa
CNTa
CAPa
INa
Vref
Q205 2SC3326/AB/-X
Q206 2SC3326/AB/-X
Q217 2SC3326/AB/X
Q218 2SC3326/AB/X
D207 MA143A-X
D208 MA143A-X
TP212
TP213
CN46
QGA1201F2-02X
SPEAKER_+
SPEAKER_-
EAR_PHONE/L 2:E6
SPEAKER_5W 2:E7
EAR_PHONE/R 2:E7
R338
F_GND
LED_VTR_G 2:E3
LED_VTR_R 2:E3
DISPLAY 2:E3
FULL_AUTO 2:E3
CN44
QGF0508F1-18X
CH1_IN
AGND
CH2_IN
MIX1_IN
MIX1_IN
MIX2_IN
AGND
CH1_OUT
CH2_OUT
+3.3V
LED_VTR_G
LED_VTR_R
DISPLAY
FULL_AUTO
GND
GND
FROM/TO
3 4 CN44
MOS
A_GND
D_GND
3 0 AUDIO

— AUDIO SCHEMATIC DIAGRAMS (2/2) —


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
2
3
4
5
6
7
8
9
10
11
12
CN14
QGF0508F1-50X
A_REF_LEV_-12 1
A_EE 2
A_DUMMY1 3
A_MIX 4
A_CH1_AUTO 5
A_CH2_AUTO 6
A_ALARM_VR1 7
A_ALARM_VR2 8
LED_VTR_G 9
LED_VTR_R 10
A_CH1_AUTO_LED 11
A_CH2_AUTO_LED 12
GND 13
FULL_AUTO 14
DISPLAY 15
TC/UB 16
MODE1 17
MODE2 18
A_SELECT_CH1 19
A_SELECT_CH2 20
LCD_BRIGHT+ 21
LCD_BRIGHT- 22
LCD_ON/OFF 23
INPUT 24
GAIN_H 25
GAIN_L 26
WHITE BAL_H 27
WHITE BAL_L 28
A_OUT_MUTE 29
BUZZER 30
A_MONI_VR 31
METER_CH1 32
METER_CH2 33
AGND 34
AUDIO_OUT_L(CH1) 35
AGND 36
AUDIO_OUT_R(CH2) 37
AGND 38
AUDIO_IN_L(CH1) 39
AGND 40
AUDIO_IN_R(CH2) 41
AGND 42
LINE_OUT_L(CH1) 43
AGND 44
LINE_OUT_R(CH2) 45
AGND 46
EAR_PHONE(L) 47
AGND 48
EAR_PHONE(R) 49
SPEAKER_SW 50
A_REF_LEV_-12 1:M7
A_EE 1:K11
A_MIX 1:I11
A_CH1_AUTO 1:G7
A_CH2_AUTO 1:G7
A_ALARM_VR1 1:P8
A_ALARM_VR2 1:M9
LED_VTR_G 1:P11
LED_VTR_R 1:P11
A_CH1_AUTO_LED 1:E7
A_CH2_AUTO_LED 1:E7
FULL_AUTO 1:P12
DISPLAY 1:P11
TC_UB M6
MODE1 P6
MODE2 P5
A_SELECT_CH1 K7
A_SELECT_CH2 K7
LCD_BRIGHT+ K8
LCD_BRIGHT- K8
LCD_ON_OFF K10
INPUT N7
GAIN_H 1:E7
GAIN_L 1:E7
WHITE_BAL_H 1:E7
WHITE_BAL_L 1:E7
A_OUT_MUTE 1:Q4
ALARM 1:K8
A_MONI_VR 1:P9
A_LCD_CH1_METER 1:O3
A_LCD_CH2_METER 1:O3
AUDIO_OUT_CH1 1:I5
AUDIO_OUT_CH2 1:I6
AUDIO_IN_CH1 1:I8
AUDIO_IN_CH2 1:I10
A_LINE_OUT_CH1 1:O5
A_LINE_OUT_CH2 1:O6
EAR_PHONE/L 1:S10
EAR_PHONE/R 1:S11
SPEAKER_SW 1:S11
FROM/TO
20 CN14
MIF
R322 0 MG
R323 0 MG
A_GND
D_GND
CN24
QGF0508F1-50X
A_GND 1
A_GND 2
+48V 3
+48V 4
A_GND 5
+9V 6
+9V 7
A_GND 8
-9V 9
-9V 10
A_GND 11
A_GND 12
+3.3V 13
+3.3V 14
DGND 15
DGND 16
REC 17
AGND 18
COM 19
VST 20
VCK 21
EN 22
DWN 23
AGND 24
AGND 25
SW+12V 26
SW+12V 27
AGND 28
VDDG 29
VSSG 30
SLVSG 31
WIDE 32
HST 33
REF 34
TEST 35
Cext/Rext 36
HCK2 37
HCK1 38
PSIG 39
G 40
R 41
B 42
RGT 43
AGND 44
+5V 45
+5V 46
MON.BL CTL 47
AGND 48
AGND 49
REV-SW 50
FROM/TO
20 CN24
MIF
REC 1:E7
CN62
QGF0305F1-33X
33 AGND
32 COM
31 VST
30 VCK
29 EN
28 DWN
27 AGND
26 AGND
25 SW+12V
24 SW+12V
23 AGND
22 VDDG
21 VSSG
20 SLVSG
19 WIDE
18 HST
17 REF
16 TEST
15 Cext/Rext
14 HCK2
13 HCK1
12 PSIG
11 G
10 R
9 B
8 RGT
7 AGND
6 +5V
5 +5V
4 MON.BL CTL
3 AGND
2 AGND
1 REV-SW
FROM/TO
61 CN62
M-BL
OPEN
R325 0 MG
R326 0 MG
MUTE_5V 1:Q3
+48V
+9V
-9V
+5V
L201
NQL904J-100X
C286
0.1u
C287
0.1u
L202
NQL904J-100X
C288 22/16
C289 22/16
E
IC212
NJM78L05UA-X
IN
OUT
GND
3
1
2
C292
10/16
R324
0 MG
A_GND
D_GND
K201
NQR0413-002X
L203
NQL904J-100X
+3.3V
C290
0.1u
C291
10u
C293
0.1u
D-GND
AUDIO SELECT
S202
NSW0070-001X
S203
NSW0070-001X
AUTO
MANUAL
CH1
CH2
D-GND
A_SELECT_CH1
E4
A_SELECT_CH2
E4
LCD BRIGHT
S206
NSW0010-001X
S207
NSW0010-001X
−
+
D-GND
LCD_BRIGHT-
E4
LCD_BRIGHT+
E4
DISPLAY
TC
UB
S204
NSW0070-001X
TC_UB
E3
D-GND
Gene
S205
NSW0070-002X
Free
Rec
Regen
MODE2
E4
MODE1
E3
D-GND
CAM/VTR
S208
NSW0010-001X
INPUT
E4
D-GND
S201
NSW0180-001X
LCD_ON_OFF
E4
D-GND
30 AUDIO

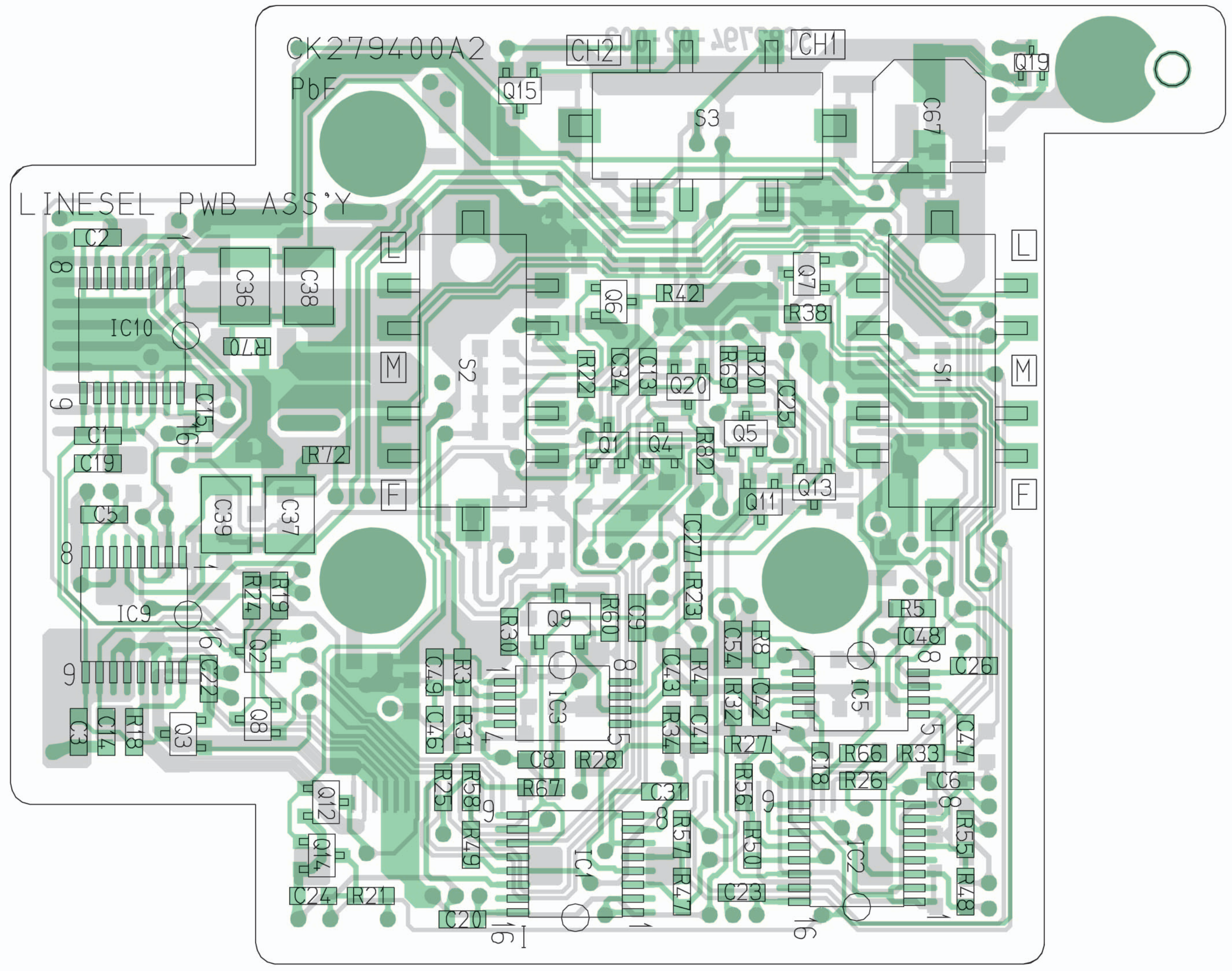
4.18 LINE SELECT SCHEMATIC DIAGRAM



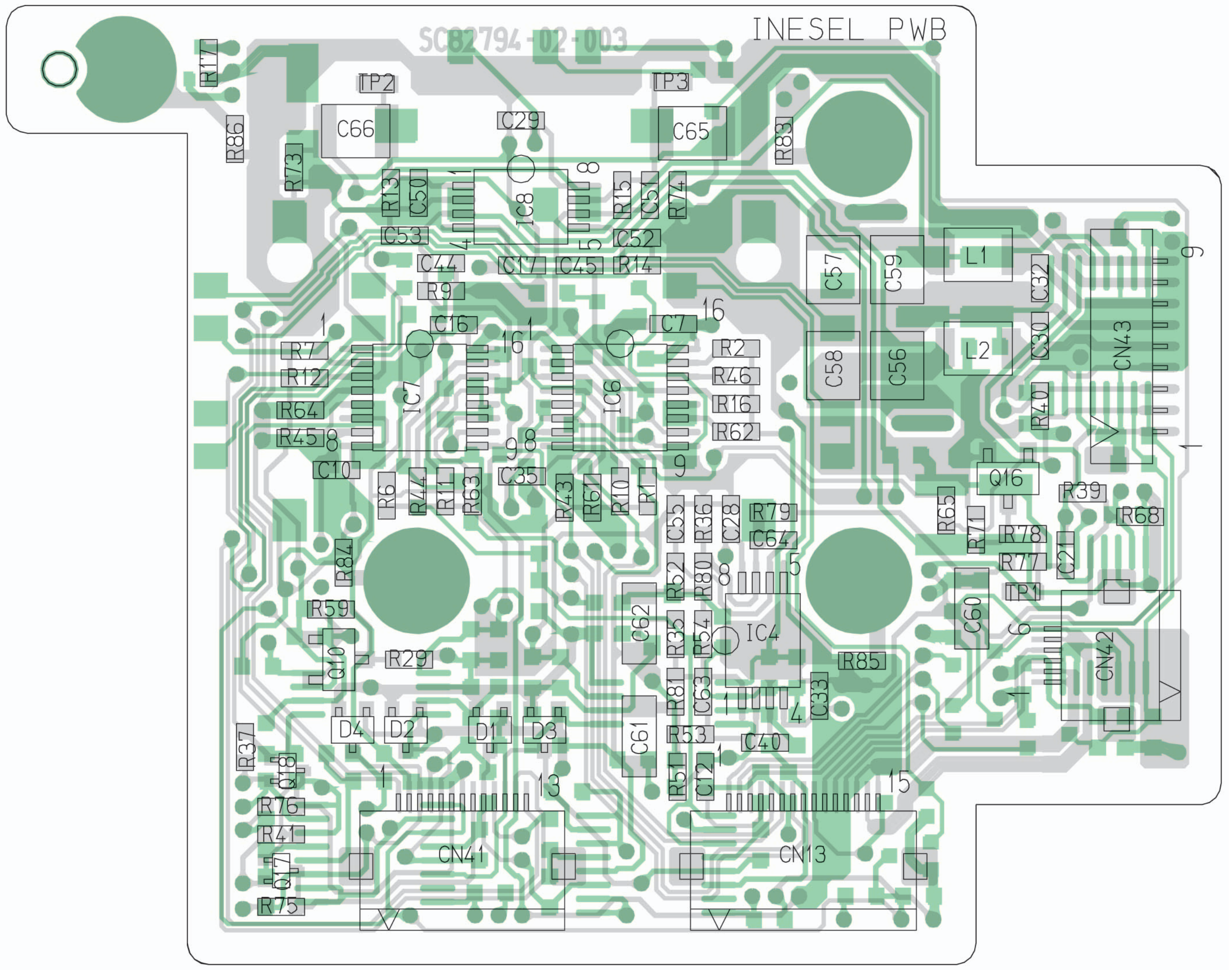
B C D E F G H I J K L M N O P Q R
1 2 3 4 5 6 7 8 9 10 11 12
3 1 LINE SELECT
XLR PWB
CN41 QGF0508F1-13X
ZINSW1_+ 13
ZINSW1_- 12
INPUT1_IN(+) 11
GND1 10
INPUT1_IN(-) 9
F2_+48V 8
GND 7
F1_+48V 6
INPUT2_IN(+) 5
GND2 4
INPUT2_IN(-) 3
ZINSW2_+ 2
ZINSW2_- 1
A_INPUT1_LINE/MIC
A_INPUT2_LINE/MIC
A_MIC1_REF
A_MIC2_REF
A_LOW_CUT1
A_LOW_CUT2
A_1KHZ_GATE
A_1KHZ_ON
A_REF_LEV_-12
CH2_INPUT
INPUT SEL:INPUT1 -60(FANTOM) -60(MIC) +4(LINE)
INPUT SEL:INPUT1 INPUT2
S1 NSW0070-002X
S2 NSW0070-002X
S3 NSW0070-001X
IC1 TC4053BFT-X
IC2 TC4053BFT-X
IC3
IC4
IC5
IC6 TC4052BFT/N/-X
IC7 TC4052BFT/N/-X
IC8
IC9 TC4052BFT/N/-X
IC10 TC4052BFT/N/-X
Q1 DTC144EUA-X
Q2 DTC144EUA-X
Q3 DTC144EUA-X
Q4 DTC144EUA-X
Q5 DTC144EUA-X
Q6 DTC144EUA-X
Q7 DTC144EUA-X
Q8 DTC144EUA-X
Q9 2SK1062-X
Q10 2SK1062-X
Q11 DTC124EUA-X
Q12 DTC124EUA-X
Q13 DTC124EUA-X
Q14 DTC124EUA-X
Q15 DTC124EUA-X
Q16 2SC3326/AB/-X
Q17 2SB1463/RST/-X
Q18 2SB1463/RST/-X
Q19 2SD2240/RS/-X
Q20 DTA114EUA-X
D1 MA143A-X
D4 MA143A-X
INPUT1 OPEN TP3
INPUT2 OPEN TP2
OPEN TP1
CN43 QGA1002C1-09X
1 CH1_OUT
2 AGND
3 CH2_OUT
4 AGND
5 +9V
6 AGND
7 -9V
8 AGND
9 +48V
TO AUDIO PWB
CN13 QGF0508F1-15X
1 A_LOW_CUT1
2 A_LOW_CUT2
3 A_1kHz_GATE
4 A_1kHz_ON
5 A_REF_LEV_-12
6 A_MIC1_REF
7 A_MIC2_REF
8 A_INPUT1_LINE/MIC
9 A_INPUT2_LINE/MIC
10 CH2_INPUT
11 EJECT_LED
12 ELECT_SW
13 GND
14 +3.3V
15 GND
TO MIF PWB
CN42 QGF0508F1-06X
1 GND
2 GND
3 EJECT_SW
4 EJECT_LED
5 +3.3V
6 +3.3V
TO EJT PWB
L2 NQL904J-100X
L1 NQL904J-100X
F_GND
D_GND
A_GND
+9V
-9V
+48V
+3.3V

4.19 LINE SELECT CIRCUIT BOARD

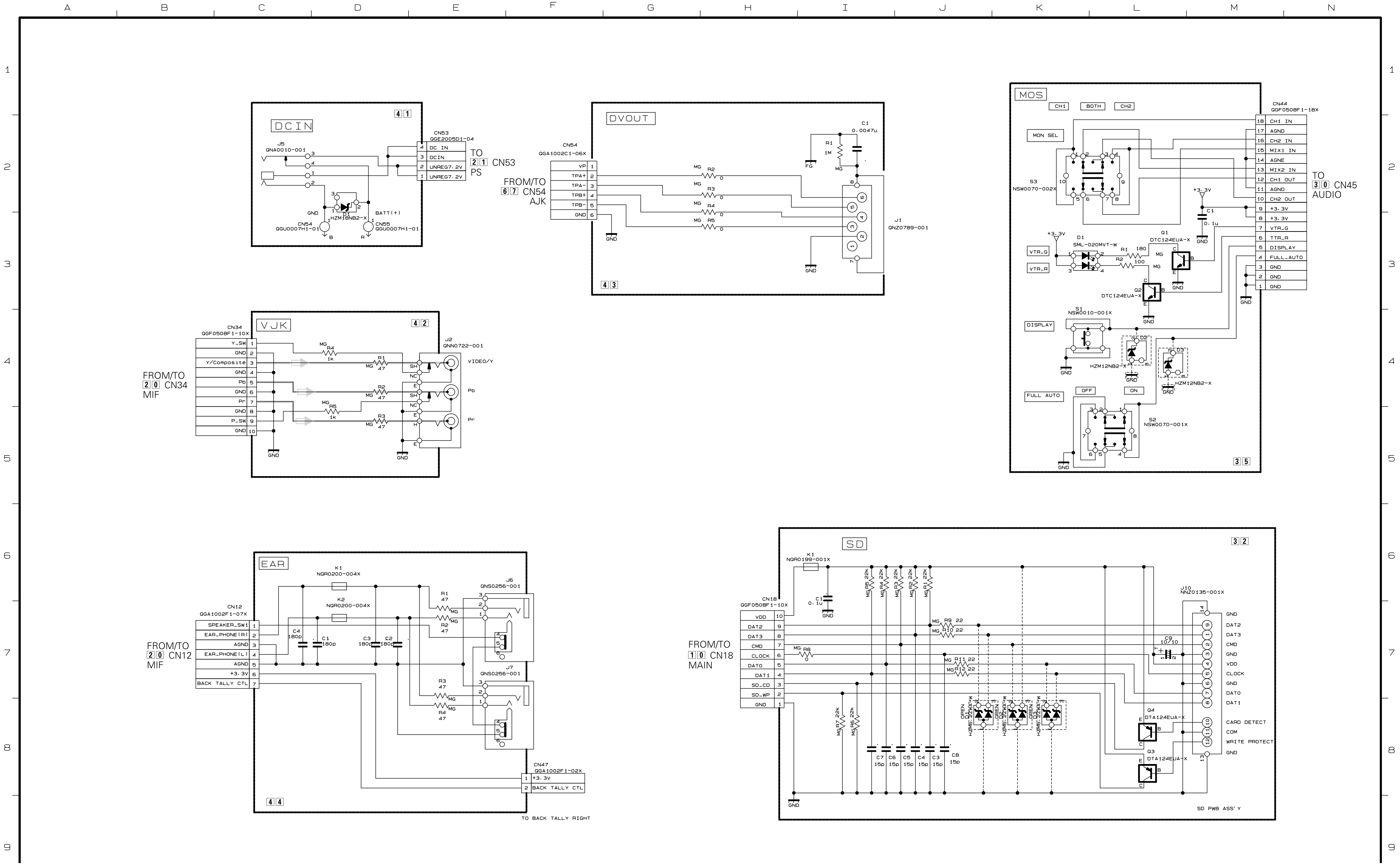
– SIDE A –


CK279400A2
PbF
LINESEL PWB ASS'Y
CH2
CH1
Q15
S3
Q19
C67
C2
C36
C38
IC10
R70
C15
C1
C19
R72
C5
C39
C37
IC9
R74
R19
Q2
C22
C3
C4
R18
Q3
Q8
Q12
Q14
C24
R21
L
M
F
S2
S1
Q6
R42
Q7
R38
R22
C34
C13
Q20
R69
R20
C25
Q1
Q4
R82
Q5
Q11
Q13
C27
R23
Q9
R30
R60
C9
C29
R3
C46
R31
IC3
C8
R28
R67
R25
R58
R49
C20
IC1
C31
C43
R34
R4
C41
C54
R8
R32
C42
R27
R56
IC5
C18
R66
R26
R33
R5
C48
C26
C47
C6
R57
R47
R50
C23
IC2
R55
R48

– SIDE B –


INESEL PWB
SC82794-02-003
R17
R86
R73
TP2
C66
C29
TP3
C65
R83
R13
C50
IC8
R15
C51
R74
C53
C52
C44
C17
C45
R14
R9
C16
C7
R7
R12
R64
R45
C10
IC7
IC6
R2
R46
R16
R62
C57
C59
L1
C32
C58
C56
L2
C30
CN43
R40
Q16
R39
R68
R65
R71
R78
R77
C21
TP1
C60
CN42
R6
R44
R11
R63
C35
R43
R61
R10
R1
C55
R36
C28
R79
C64
R84
R59
R29
Q10
C62
R52
R80
R35
R54
IC4
R85
R81
C63
C33
D4
D2
D1
D3
C61
R53
C40
R51
C12
R37
Q18
R76
R41
Q17
R75
CN41
CN13

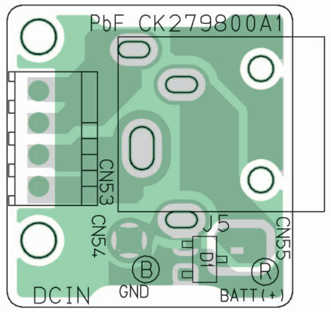
4.20 OPERATION-1 & ETC (MOS, DVOUT, V JK, EAR, DC IN & SD) SCHEMATIC DIAGRAMS


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
DCIN
4 1
J5
QNA0010-001
CN53
QGE2005D1-04
DC IN
DCIN
UNREG7.2V
UNREG7.2V
TO
2 1 CN53
PS
D1
HZM18NB2-X
GND
BATT(+)
CN54
QGU0007H1-01
CN55
QGU0007H1-01
DVOUT
4 3
CN54
QGA1002C1-06X
VP
TPA+
TPA-
TPB+
TPB-
GND
FROM/TO
6 7 CN54
AJK
R2
R3
R4
R5
C1
0.0047u
R1
1M
FG
J1
QNZ0789-001
MOS
3 5
CH1
BOTH
CH2
MON SEL
S3
NSW0070-002X
CN44
QGF0508F1-18X
CH1 IN
AGND
CH2 IN
MIX1 IN
AGNE
MIX2 IN
CH1 OUT
AGND
CH2 OUT
+3.3V
+3.3V
VTR_G
TTR_R
DISPLAY
FULL_AUTO
GND
GND
GND
TO
3 0 CN45
AUDIO
C1
0.1u
D1
SML-020MVT-W
Q1
DTC124EUA-X
Q2
DTC124EUA-X
VTR_G
VTR_R
DISPLAY
S1
NSW0010-001X
D2
D3
HZM12NB2-X
FULL AUTO
OFF
ON
S2
NSW0070-001X
VJK
4 2
CN34
QGF0508F1-10X
Y_SW
GND
Y/Composite
GND
Pb
GND
Pr
GND
P_SW
GND
FROM/TO
2 0 CN34
MIF
J2
QNN0722-001
VIDEO/Y
Pb
Pr
R4 1k
R5 1k
R1 47
R2 47
R3 47
EAR
4 4
K1
NQR0200-004X
K2
NQR0200-004X
CN12
QGA1002F1-07X
SPEAKER_SW1
EAR_PHONE(R)
AGND
EAR_PHONE(L)
AGND
+3.3V
BACK TALLY CTL
FROM/TO
2 0 CN12
MIF
C4 180p
C1 180p
C3 180p
C2 180p
J6
QNS0256-001
J7
QNS0256-001
R1 47
R2 47
R3 47
R4 47
CN47
QGA1002F1-02X
+3.3V
BACK TALLY CTL
TO BACK TALLY RIGHT
SD
3 2
K1
NQR0199-001X
CN18
QGF0508F1-10X
VDD
DAT2
DAT3
CMD
CLOCK
DAT0
DAT1
SD_CD
SD_WP
GND
FROM/TO
1 0 CN18
MAIN
C1
0.1u
R6 22k
R4 22k
R3 22k
R2 22k
R1 22k
R7 22k
R5 22k
R9 22
R10 22
R8 0
R11 22
R12 22
C9
10/10
D1
D2
D3
HZM6.2ZWA-W
OPEN
C7 15p
C6 15p
C5 15p
C4 15p
C3 15p
C8 15p
J10
NNZ0135-001X
GND
DAT2
DAT3
CMD
GND
VDD
CLOCK
GND
DAT0
DAT1
CARD DETECT
COM
WRITE PROTECT
GND
Q4
DTA124EUA-X
Q3
DTA124EUA-X
SD PWB ASS'Y

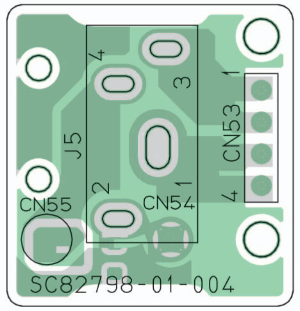
4.21 OPERATION-1 & ETC (MOS, DVOUT, V JK, EAR, DC IN & SD) CIRCUIT DIAGRAMS

– DC IN –

– SIDE A –

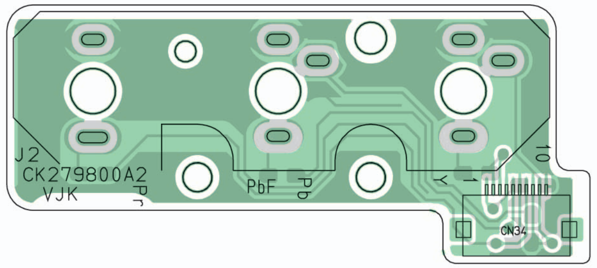

PbF CK279800A1
CN53
CN54
J5
D1
CN55
DCIN
GND
BATT(+)

– SIDE B –

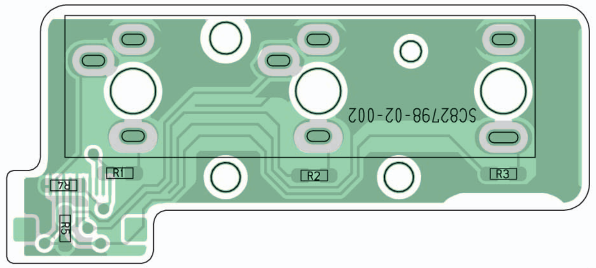

J5
CN53
CN55
CN54
SC82798-01-004

– V JK –

– SIDE A –

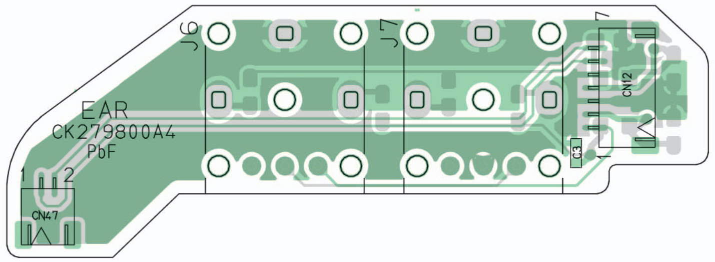

J2
CK279800A2
VJK
PbF
CN34

– SIDE B –

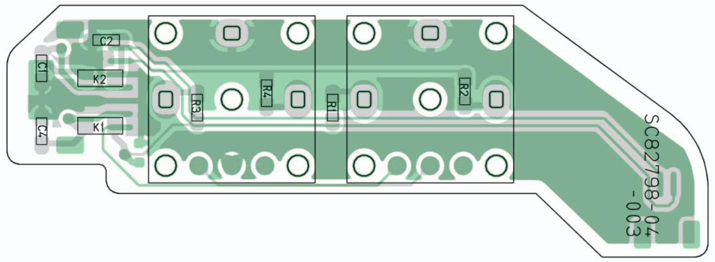

SC82798-02-002
R1
R2
R3

– EAR –

– SIDE A –

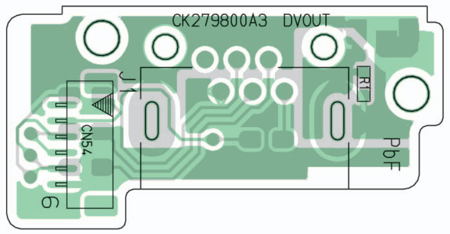

J6
J7
EAR
CK279800A4
PbF
CN12
CN47

– SIDE B –

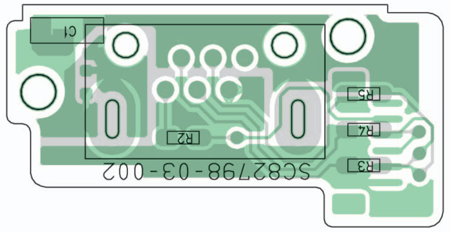

K1
K2
SC82798-04-003

– DV OUT –

– SIDE A –

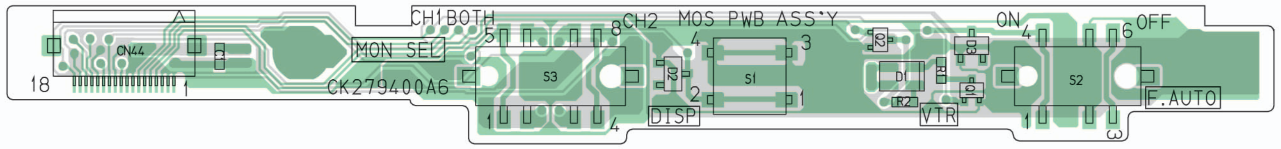

CK279800A3 DVOUT
J1
R1
CN52
PbF

– SIDE B –

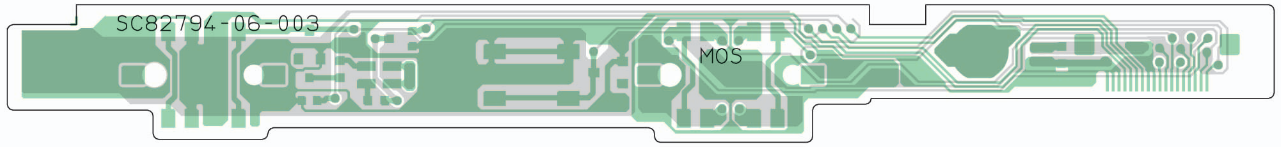

C1
R2
R3
R4
R5
SC82798-03-002

– MOS –

– SIDE A –

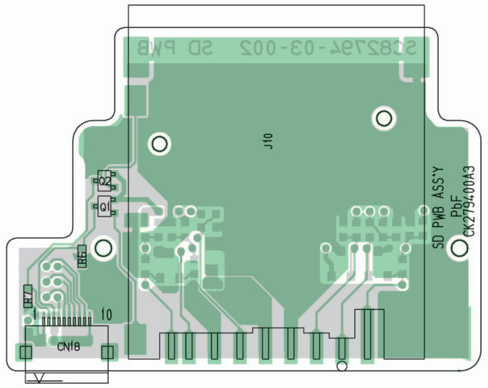

CH1BOTH
CH2
MOS PWB ASS'Y
ON
OFF
MON SEL
CN44
18
1
CK279400A6
S3
S1
S2
DISP
VTR
F.AUTO
D1
R2

– SIDE B –

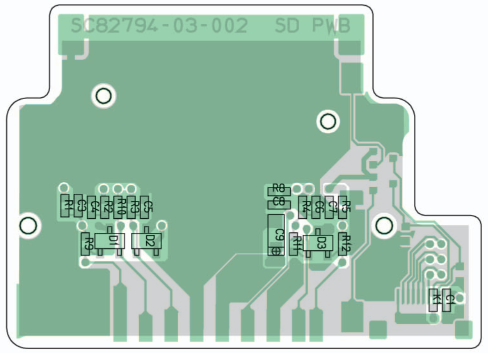

SC82794-06-003
MOS

– SD –

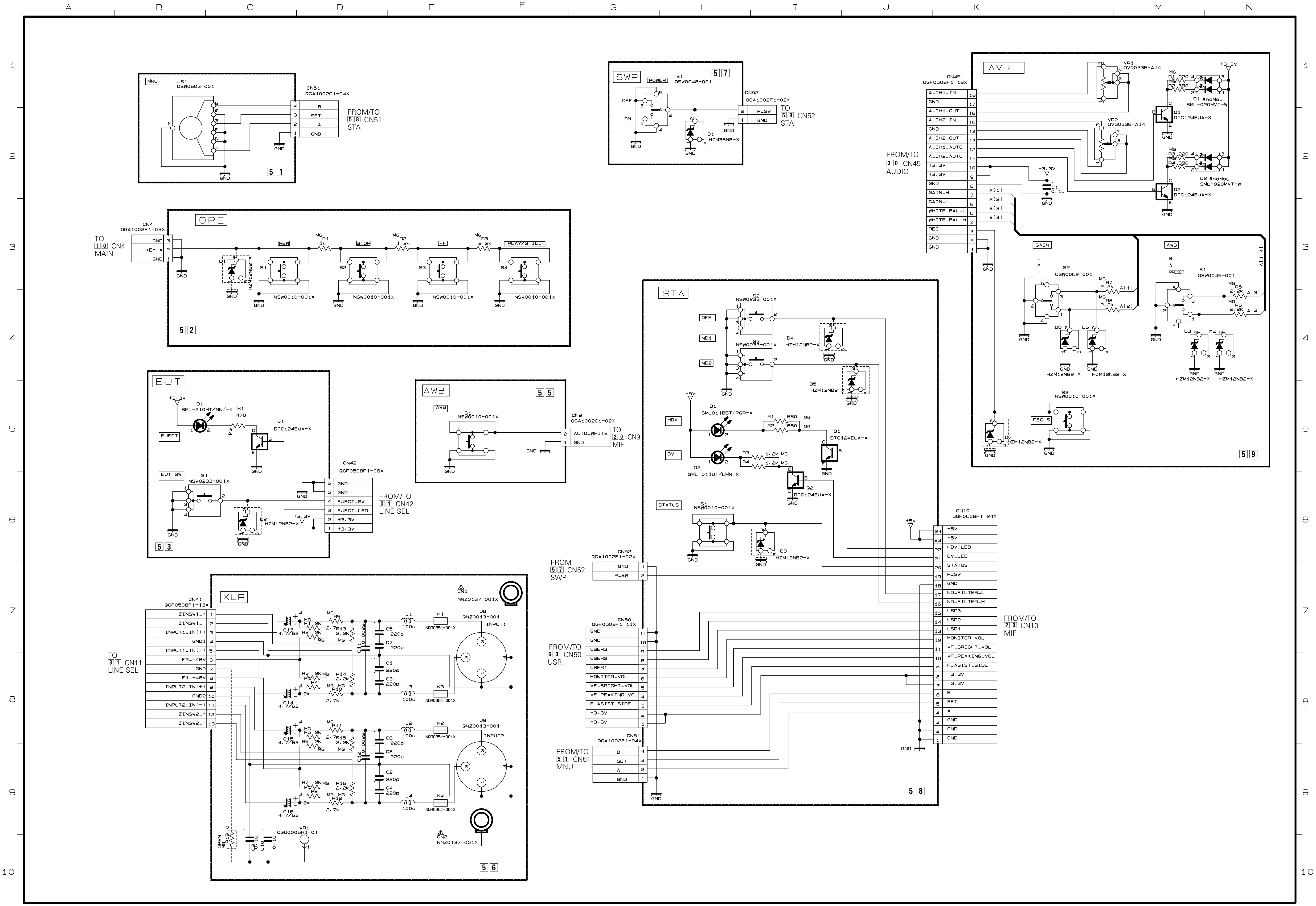
– SIDE A –


J10
SD PWB ASS'Y
PbF
CK279400A3
CN18
10

– SIDE B –


SC82794-03-002 SD PWB

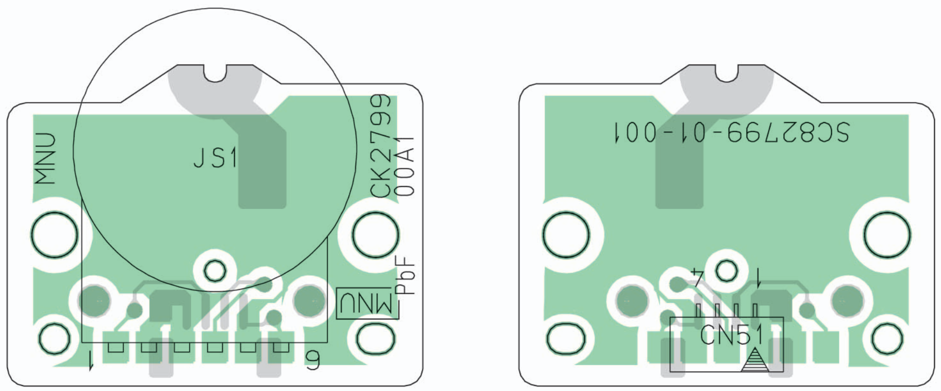
4.22 OPERATION-2 (AVR, STA, SWP, MNU, OPE, EJT, AWB & XLR) SCHEMATIC DIAGRAMS


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
MNU
JS1
QSW0603-001
CN51
QGA1002C1-04X
B
SET
A
GND
FROM/TO
5 8 CN51
STA
5 1
SWP
POWER
S1
QSW0048-001
OFF
ON
CN52
QGA1002F1-02X
P_SW
GND
TO
5 8 CN52
STA
D1
HZM36NB-X
5 7
AVR
CN45
QGF0508F1-18X
A_CH1_IN
GND
A_CH1_OUT
A_CH2_IN
GND
A_CH2_OUT
A_CH1_AUTO
A_CH2_AUTO
+3.3V
+3.3V
GND
GAIN_H
GAIN_L
WHITE BAL_L
WHITE BAL_H
REC
GND
GND
FROM/TO
3 0 CN45
AUDIO
VR1
QVQ0336-A14
VR2
QVQ0336-A14
R1 220
R2 390
R3 220
R4 390
D1
SML-020MVT-W
D2
SML-020MVT-W
Q1
DTC124EUA-X
Q2
DTC124EUA-X
C1
0.1u
A[1]
A[2]
A[3]
A[4]
A[1-4]
GAIN
L
M
H
S2
QSW0052-001
R7
2.2k
R8
2.2k
D5
D6
HZM12NB2-X
AWB
B
A
PRESET
S1
QSW0049-001
R5
2.2k
R6
2.2k
D3
D4
HZM12NB2-X
REC S
S3
NSW0010-001X
D7
HZM12NB2-X
5 9
OPE
CN4
QGA1002F1-03X
GND
KEY_A
GND
TO
1 0 CN4
MAIN
D1
HZM12NB2-X
REW
R1
1k
STOP
R2
1.2k
FF
R3
2.2k
PLAY/STILL
S1
S2
S3
S4
NSW0010-001X
5 2
EJT
+3.3V
D1
SML-210MT/MN/-X
R1
470
Q1
DTC124EUA-X
EJECT
EJT SW
S1
NSW0233-001X
D2
HZM12NB2-X
CN42
QGF0508F1-06X
GND
GND
EJECT_SW
EJECT_LED
+3.3V
+3.3V
FROM/TO
3 1 CN42
LINE SEL
5 3
AWB
S1
NSW0010-001X
CN9
QGA1002C1-02X
AUTO_WHITE
GND
TO
2 0 CN9
MIF
5 5
STA
S2
NSW0233-001X
OFF
ND1
ND2
S3
NSW0233-001X
D4
HZM12NB2-X
D5
HZM12NB2-X
+5V
HDV
D1
SML011BBT/PQR-X
R1 680
R2 680
Q1
DTC124EUA-X
DV
R3 1.2k
R4 1.2k
D2
SML-011DT/LMN-X
Q2
DTC124EUA-X
STATUS
S1
NSW0010-001X
D3
HZM12NB2-X
CN10
QGF0508F1-24X
+5V
+5V
HDV_LED
DV_LED
STATUS
P_SW
GND
ND_FILTER_L
ND_FILTER_H
USR3
USR2
USR1
MONITOR_VOL
VF_BRIGHT_VOL
VF_PEAKING_VOL
F_ASIST_SIDE
+3.3V
+3.3V
B
SET
A
GND
GND
GND
FROM/TO
2 0 CN10
MIF
CN52
QGA1002F1-02X
GND
P_SW
FROM
5 7 CN52
SWP
CN50
QGF0508F1-11X
GND
GND
USER3
USER2
USER1
MONITOR_VOL
VF_BRIGHT_VOL
VF_PEAKING_VOL
F_ASIST_SIDE
+3.3V
+3.3V
FROM/TO
6 3 CN50
USR
CN51
QGA1002F1-04X
B
SET
A
GND
FROM/TO
5 1 CN51
MNU
5 8
XLR
CN41
QGF0508F1-13X
ZINSW1_+
ZINSW1_-
INPUT1_IN(+)
GND1
INPUT1_IN(-)
F2_+48V
GND
F1_+48V
INPUT2_IN(+)
GND2
INPUT2_IN(-)
ZINSW2_+
ZINSW2_-
TO
3 1 CN11
LINE SEL
CN1
NNZ0137-001X
J8
QNZ0013-001
INPUT1
J9
QNZ0013-001
INPUT2
CN2
NNZ0137-001X
C13 4.7/63
C14 4.7/63
C15 4.7/63
C16 4.7/63
R9 2.7k
R13 2.2k
R10 2.7k
R14 2.2k
R11 2.7k
R15 2.2k
R12 2.7k
R16 2.2k
C11 0.0022
C12 0.0022
C5 220p
C7 220p
C1 220p
C3 220p
C6 220p
C8 220p
C2 220p
C4 220p
L1 100u
L2 100u
L3 100u
L4 100u
K1
K2
K3
K4
NQR0351-001X
C9 0.1u
C10 0.1u
WR1
QGU0006H1-01
OPEN
5 6

4.23 OPERATION-2 (AVR, STA, SWP, MNU, OPE, EJT, AWB & XLR) CIRCUIT BOARDS

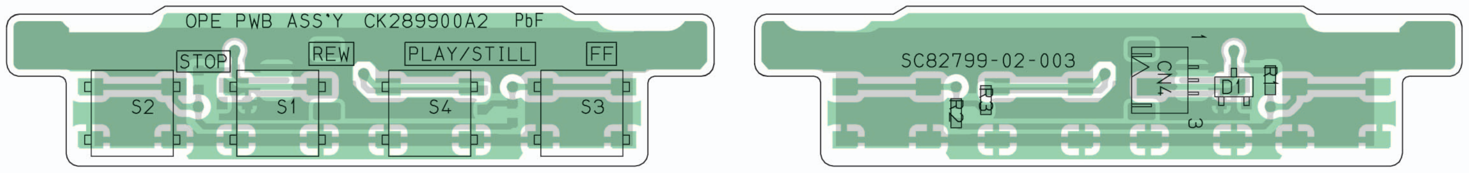
– MNU –

– SIDE A – – SIDE B –


MNU
JS1
CK2799 00A1
PbF
MNU
1
6
SC82799-01-001
CN51
4
1

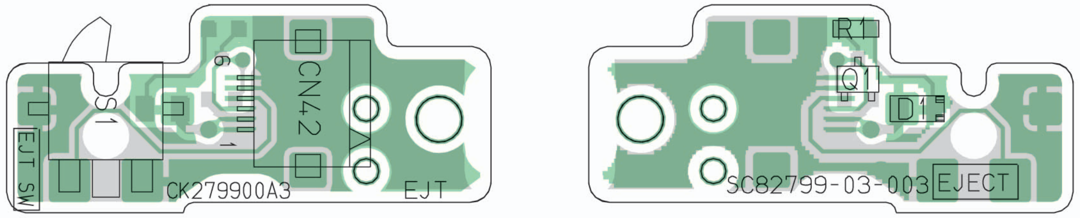
– OPE –

– SIDE A – – SIDE B –


OPE PWB ASS'Y CK289900A2 PbF
STOP
REW
PLAY/STILL
FF
S2
S1
S4
S3
SC82799-02-003
CN4
D1
R1
R2
R3
1
3

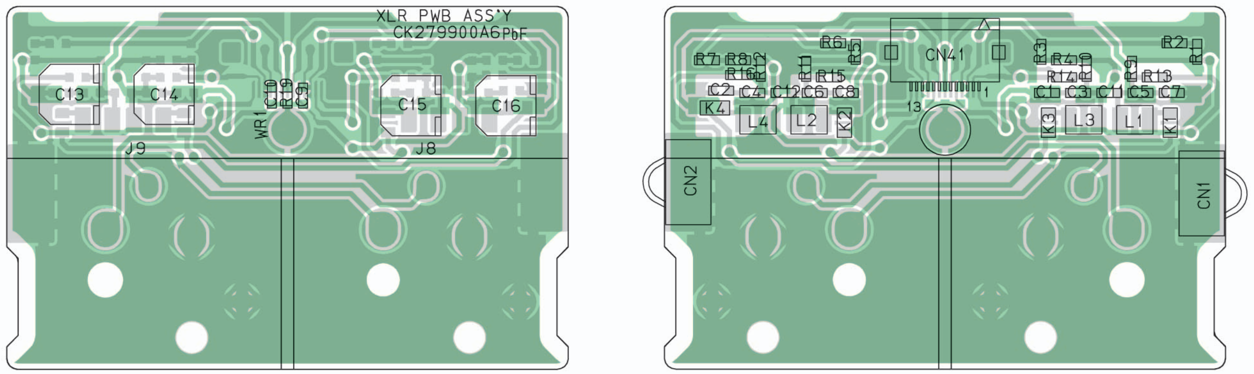
– EJT –

– SIDE A – – SIDE B –


S1
CN42
EJT SW
CK279900A3
EJT
6
1
R1
Q1
D1
SC82799-03-003
EJECT

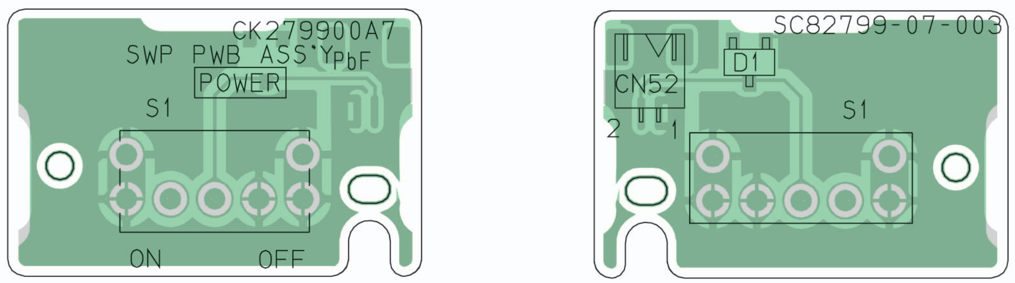
– XLR –

– SIDE A – – SIDE B –


XLR PWB ASS'Y
CK279900A6PbF
C13
C14
C15
C16
J9
J8
VR1
C10
C9
R7
R8
R6
R5
R2
CN41
R3
R4
R1
R16
R14
R13
R15
R12
R11
R10
R9
C2
C4
C12
C6
C8
C1
C3
C11
C5
C7
K4
L4
L2
K2
K3
L3
L1
K1
13
1
CN2
CN1

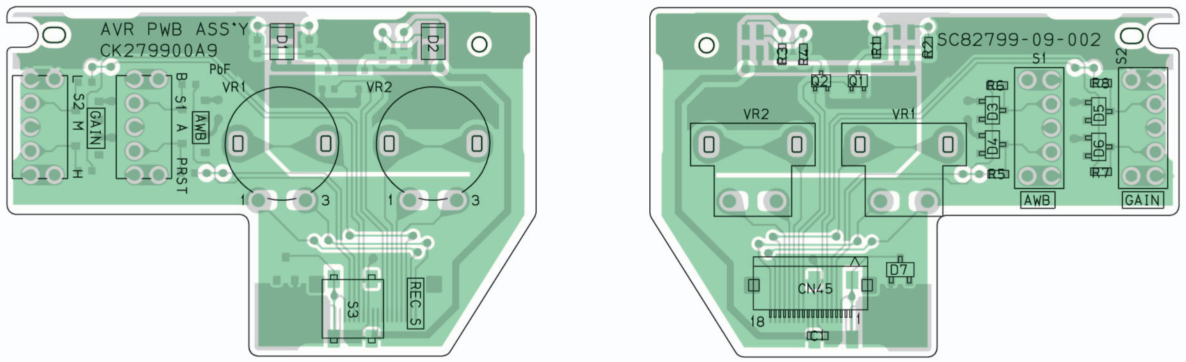
– SWP –

– SIDE A – – SIDE B –


CK279900A7
SWP PWB ASS'Y PbF
POWER
S1
ON
OFF
SC82799-07-003
CN52
D1
S1
2
1

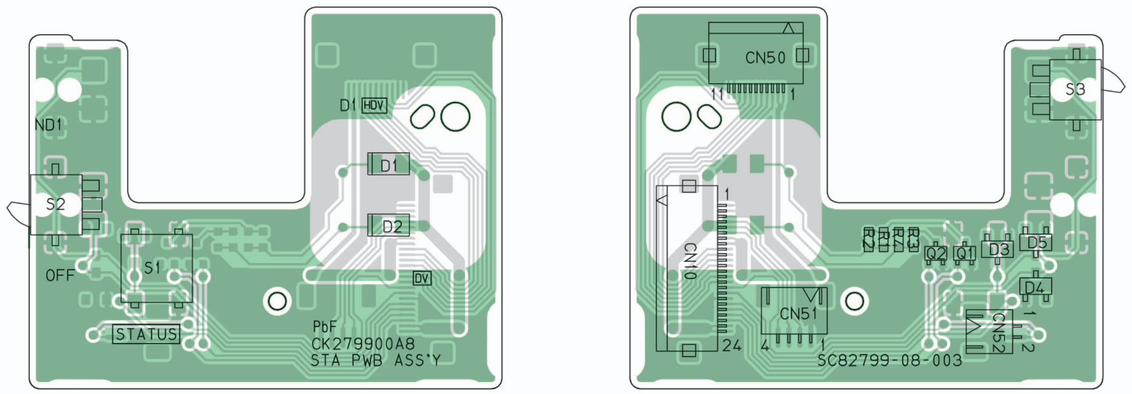
– AVR –

– SIDE A – – SIDE B –


AVR PWB ASS'Y
CK279900A9
PbF
D1
D2
S2
GAIN
S1
AWB
PRST
VR1
VR2
S3
REC S
1
3
SC82799-09-002
S1
S2
VR2
VR1
Q2
Q1
R6
R8
R5
R7
AWB
GAIN
CN45
D7
18
C1

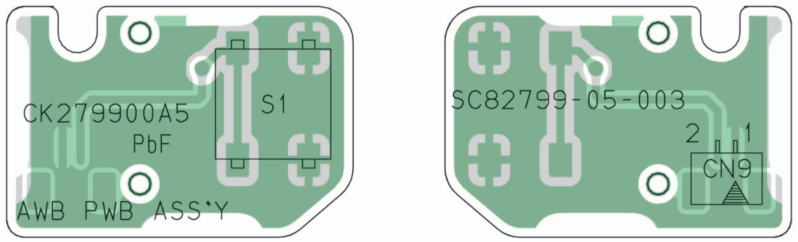
– STA –

– SIDE A – – SIDE B –

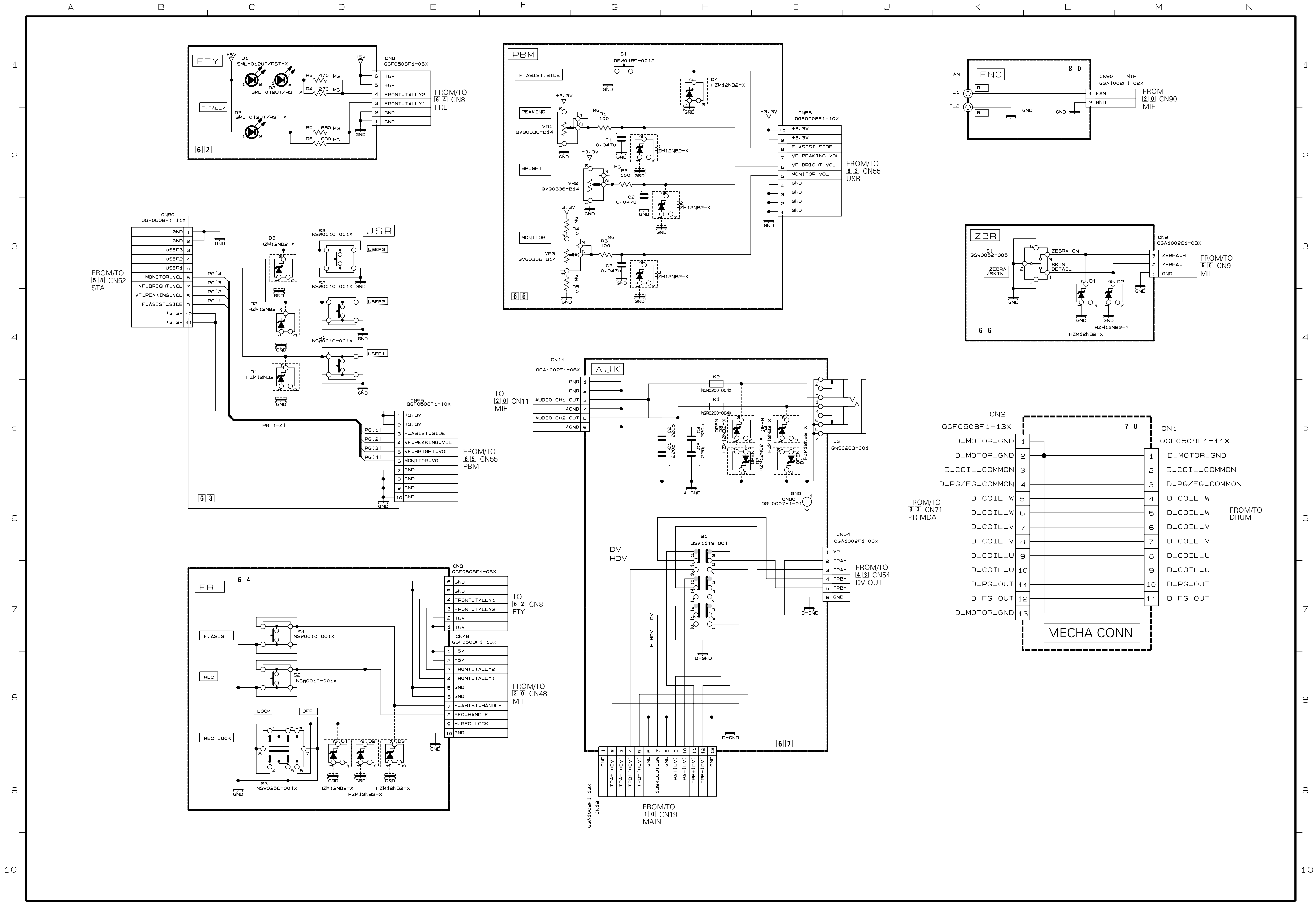

ND1
D1
HDV
D1
D2
DV
S2
OFF
S1
STATUS
PbF
CK279900A8
STA PWB ASS'Y
CN50
11
1
S3
CN10
CN51
24
4
1
Q2
Q1
D3
D5
D4
CN52
SC82799-08-003

– AWB –

– SIDE A – – SIDE B –


CK279900A5
PbF
S1
AWB PWB ASS'Y
SC82799-05-003
2
1
CN9

4.24 OPERATION-3 (FTY, USR, FRL, PBM, AJK, FNC & ZBR) & MECHA CONNECTOR SCHEMATIC DIAGRAMS

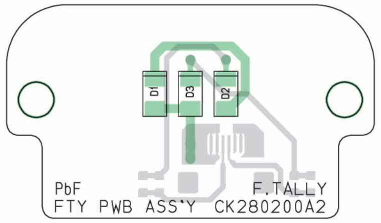


FTY
F.TALLY
D1 SML-012UT/RST-X
D2 SML-012UT/RST-X
D3 SML-012UT/RST-X
R3 470 MG
R4 270 MG
R5 680 MG
R6 680 MG
CN8 QGF0508F1-06X
+5V
FRONT_TALLY2
FRONT_TALLY1
GND
FROM/TO 64 CN8 FRL
62
PBM
F.ASIST.SIDE
PEAKING
BRIGHT
MONITOR
S1 QSW0189-001Z
VR1 QVQ0336-B14
VR2 QVQ0336-B14
VR3 QVQ0336-B14
C1 0.047u
C2 0.047u
C3 0.047u
D1 HZM12NB2-X
D2 HZM12NB2-X
D3 HZM12NB2-X
D4 HZM12NB2-X
CN55 QGF0508F1-10X
+3.3V
F_ASIST_SIDE
VF_PEAKING_VOL
VF_BRIGHT_VOL
MONITOR_VOL
FROM/TO 63 CN55 USR
65
FNC
80
FAN
TL1
TL2
CN90 MIF QGA1002F1-02X
FROM 20 CN90 MIF
ZBR
S1 QSW0052-005
ZEBRA /SKIN
ZEBRA ON
SKIN DETAIL
CN9 QGA1002C1-03X
ZEBRA_H
ZEBRA_L
FROM/TO 66 CN9 MIF
66
HZM12NB2-X
CN50 QGF0508F1-11X
USR
USER1
USER2
USER3
MONITOR_VOL
VF_BRIGHT_VOL
VF_PEAKING_VOL
F_ASIST_SIDE
FROM/TO 58 CN52 STA
S1 NSW0010-001X
S2 NSW0010-001X
S3 NSW0010-001X
PG[1-4]
CN55 QGF0508F1-10X
FROM/TO 65 CN55 PBM
63
CN11 QGA1002F1-06X
AUDIO CH1 OUT
AUDIO CH2 OUT
AGND
TO 20 CN11 MIF
AJK
K1 NQR0200-004X
K2 NQR0200-004X
C1 220p
C2 220p
C3 220p
C4 220p
OPEN
A_GND
J3 QNS0203-001
CN80 QGU0007H1-01
DV HDV
S1 QSW1119-001
H:HDV, L:DV
D-GND
CN54 QGA1002F1-06X
VP
TPA+
TPA-
TPB+
TPB-
FROM/TO 43 CN54 DV OUT
67
TPA+(HDV)
TPA-(HDV)
TPB+(HDV)
TPB-(HDV)
1394_OUT_SW
TPA+(DV)
TPA-(DV)
TPB+(DV)
TPB-(DV)
CN19 QGA1002F1-13X
FROM/TO 10 CN19 MAIN
FRL
64
F.ASIST
REC
REC LOCK
LOCK
OFF
S1 NSW0010-001X
S2 NSW0010-001X
S3 NSW0256-001X
D1 D2 D3
HZM12NB2-X
CN8 QGF0508F1-06X
TO 62 CN8 FTY
CN48 QGF0508F1-10X
F_ASIST_HANDLE
REC_HANDLE
H.REC LOCK
FROM/TO 20 CN48 MIF
CN2 QGF0508F1-13X
70
CN1 QGF0508F1-11X
D_MOTOR_GND
D_COIL_COMMON
D_PG/FG_COMMON
D_COIL_W
D_COIL_V
D_COIL_U
D_PG_OUT
D_FG_OUT
FROM/TO 33 CN71 PR MDA
FROM/TO DRUM
MECHA CONN

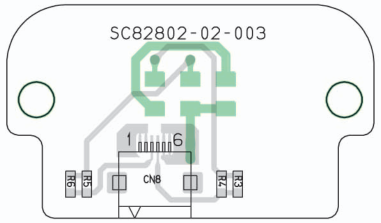
4.25 OPERATION-3 (FTY, USR, FRL, PBM, AJK, FNC & ZBR) & MECHA CONNECTOR CIRCUIT BOARDS

— FTY —

— SIDE A —

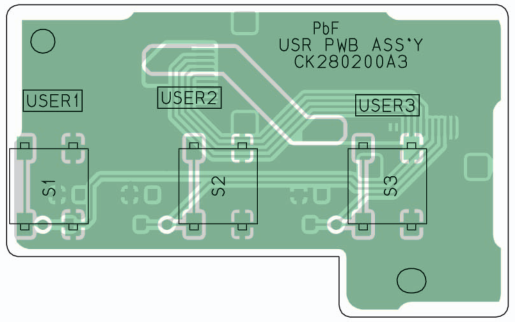

D1
D3
D2
PbF
F.TALLY
FTY PWB ASS'Y CK280200A2

— SIDE B —

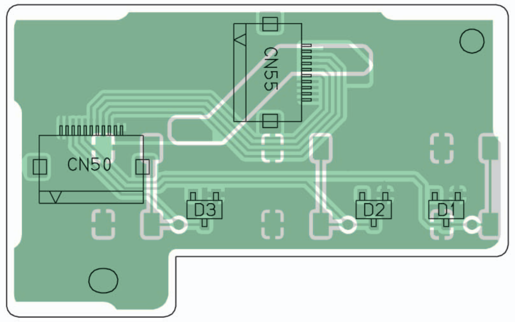

SC82802-02-003
1
6
CN8

— USR —

— SIDE A —

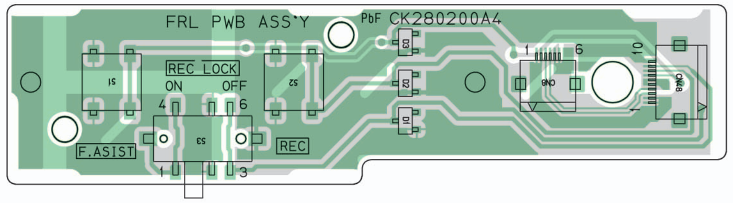

PbF
USR PWB ASS'Y
CK280200A3
USER1
USER2
USER3
S1
S2
S3

— SIDE B —

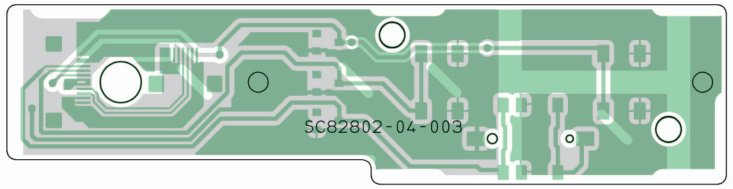

CN55
CN50
D3
D2
D1

— FRL —

— SIDE A —

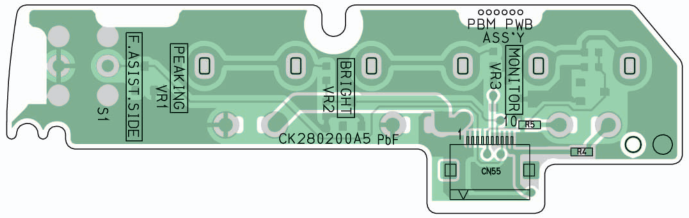

FRL PWB ASS'Y
PbF CK280200A4
REC LOCK
ON
OFF
S1
S2
S3
F.ASIST
REC
4
6
1
3
10

— SIDE B —

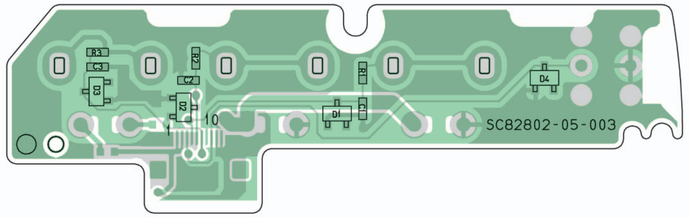

SC82802-04-003

— PBM —

— SIDE A —

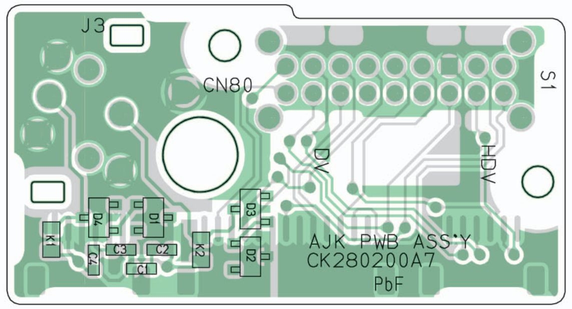

S1
F.ASIST.SIDE
PEAKING
VR1
VR2
BRIGHT
VR3
MONITOR
PBM PWB
ASS'Y
CK280200A5 PbF
CN65

— SIDE B —

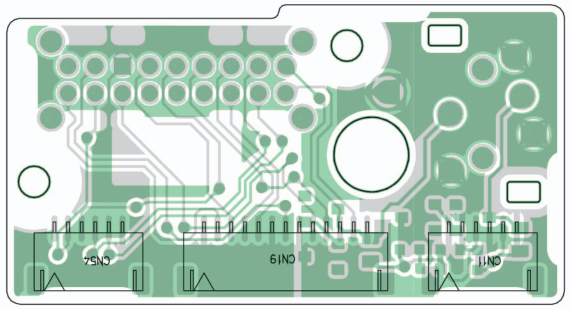

10
SC82802-05-003

— AJK —

— SIDE A —

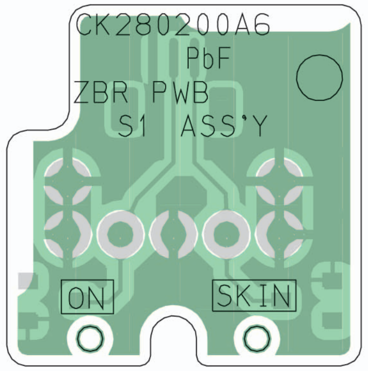

J3
CN80
S1
DV
HDV
AJK PWB ASS'Y
CK280200A7
PbF

— SIDE B —

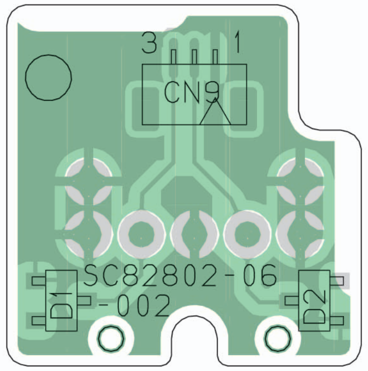


— ZBR —

— SIDE A —

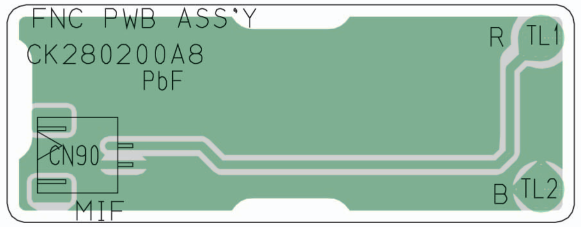

CK280200A6
PbF
ZBR PWB
S1 ASS'Y
ON
SKIN

— SIDE B —


3
1
CN9
SC82802-06
-002
D1
D2

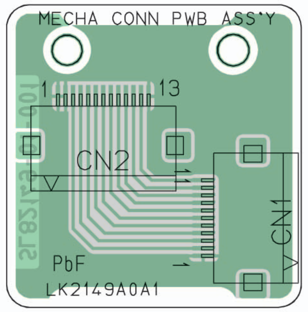
— FNC —

— SIDE A —

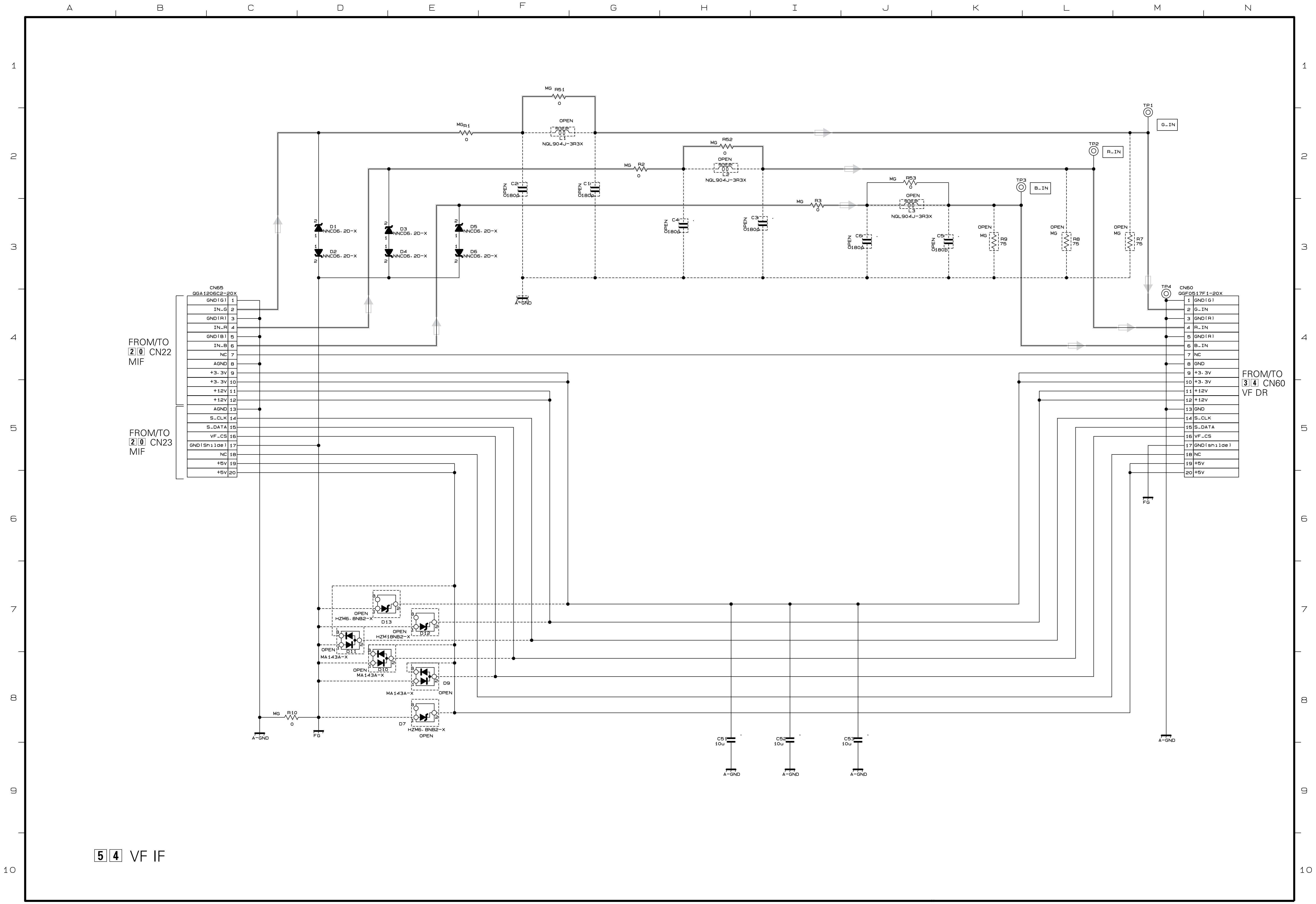

FNC PWB ASS'Y
CK280200A8
PbF
R
TL1
CN90
MIF
B
TL2

— MECHA CONN —

— SIDE A —


MECHA CONN PWB ASS'Y
1
13
CN2
CN1
PbF
LK2149A0A1

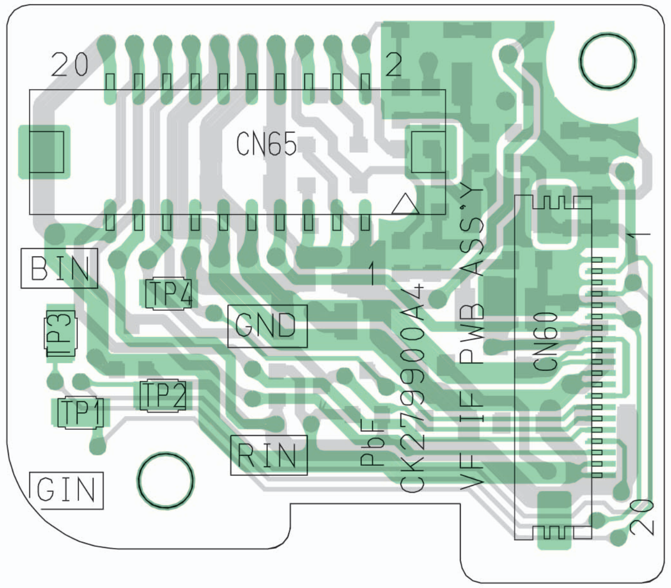
4.26 VF IF SCHEMATIC DIAGRAM


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
MG R51 0
OPEN L1 NQL904J-3R3X
MG R1 0
MG R52 0
OPEN L2 NQL904J-3R3X
MG R2 0
MG R53 0
OPEN L3 NQL904J-3R3X
MG R3 0
C2 OPEN 180p
C1 OPEN 180p
C4 OPEN 180p
C3 OPEN 180p
C6 OPEN 180p
C5 OPEN 180p
OPEN MG R9 75
OPEN MG R8 75
OPEN MG R7 75
TP1 G_IN
TP2 R_IN
TP3 B_IN
TP4
D1 NNCD6.2D-X
D2 NNCD6.2D-X
D3 NNCD6.2D-X
D4 NNCD6.2D-X
D5 NNCD6.2D-X
D6 NNCD6.2D-X
A-GND
CN65
QGA1206C2-20X
GND(G) 1
IN_G 2
GND(R) 3
IN_R 4
GND(B) 5
IN_B 6
NC 7
AGND 8
+3.3V 9
+3.3V 10
+12V 11
+12V 12
AGND 13
S_CLK 14
S_DATA 15
VF_CS 16
GND(Shilde) 17
NC 18
+5V 19
+5V 20
FROM/TO
2 0 CN22
MIF
FROM/TO
2 0 CN23
MIF
CN60
QGF0517F1-20X
1 GND(G)
2 G_IN
3 GND(R)
4 R_IN
5 GND(R)
6 B_IN
7 NC
8 GND
9 +3.3V
10 +3.3V
11 +12V
12 +12V
13 GND
14 S_CLK
15 S_DATA
16 VF_CS
17 GND(shilde)
18 NC
19 +5V
20 +5V
FROM/TO
3 4 CN60
VF DR
FG
OPEN HZM6.8NB2-X D13
OPEN HZM18NB2-X D12
OPEN MA143A-X D11
OPEN MA143A-X D10
MA143A-X D9 OPEN
D7 HZM6.8NB2-X OPEN
MG R10 0
A-GND
FG
C51 10u
C52 10u
C53 10u
A-GND
A-GND
A-GND
A-GND
5 4 VF IF

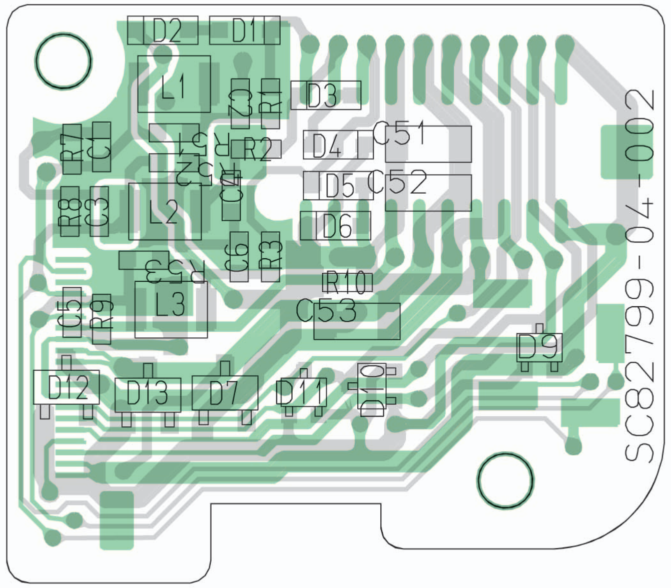
4.27 VF IF & VF DR CIRCUIT BOARDS

— VF IF —

— SIDE A —

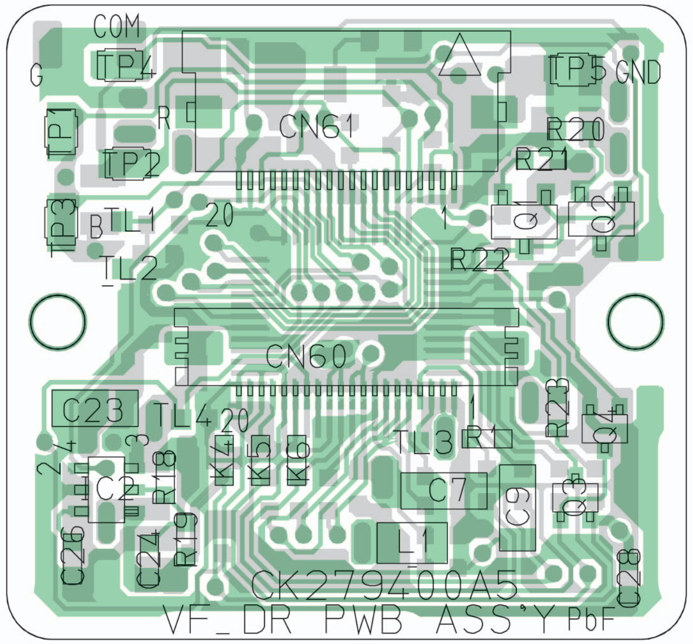

20
2
CN65
BIN
TP4
GND
TP3
TP2
TP1
RIN
GIN
CN60
PbF
CK279900A4
VF IF PWB ASS'Y
1
20

— SIDE B —

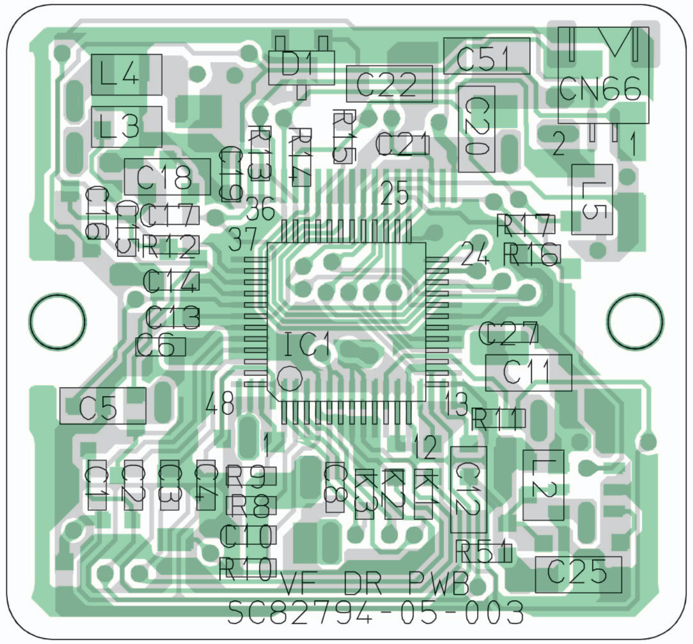

D2
D1
L1
C2
R1
D3
R7
C1
R2
D4
C51
D5
C52
R8
C3
L2
C4
D6
C6
R3
R10
C5
R9
L3
C53
D9
D12
D13
D7
D11
D10
SC82799-04-002

— VF DR —

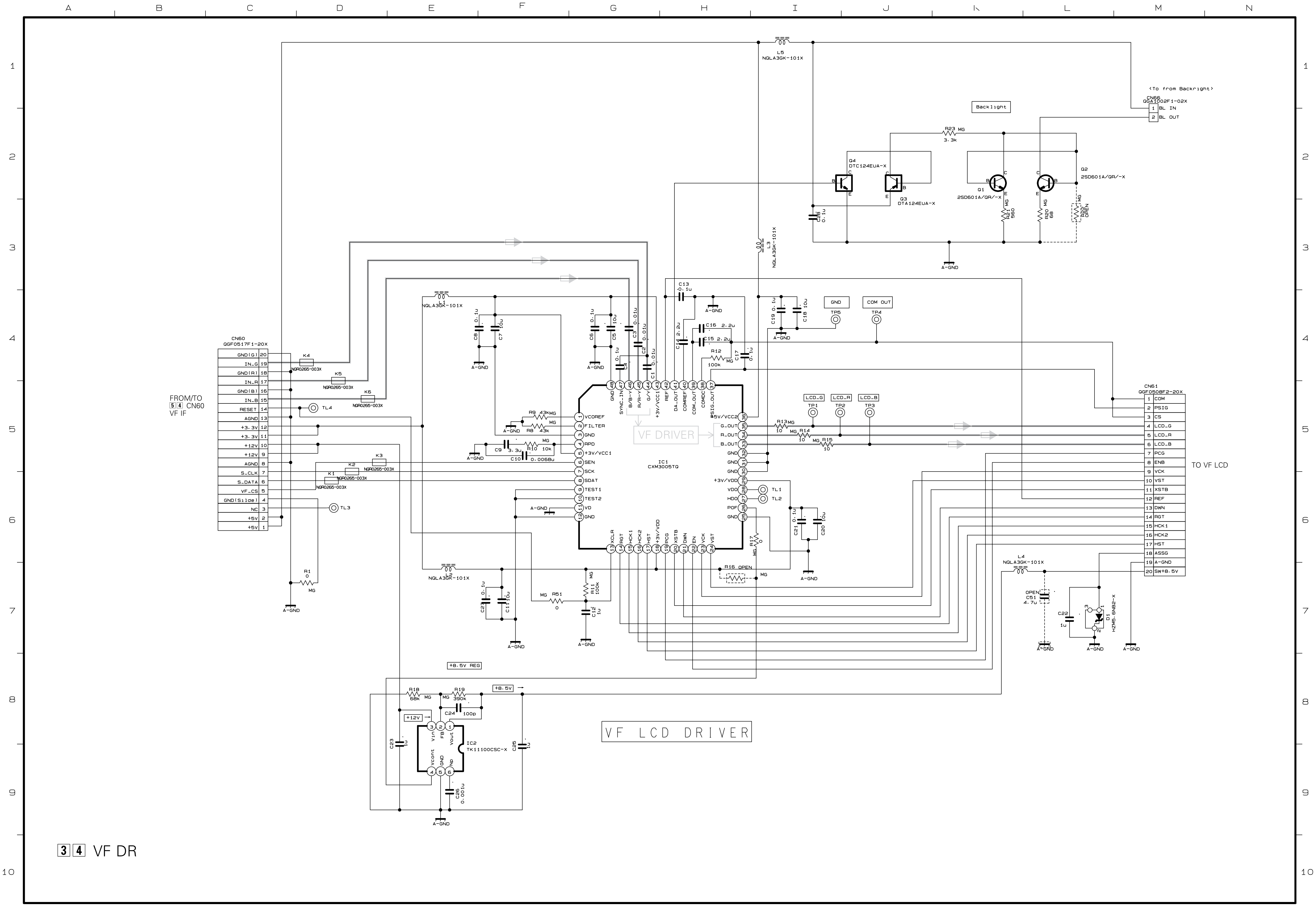
— SIDE A —


COM
G
TP4
TP5
GND
TP1
R
CN61
R20
R21
TP2
TP3
BTL1
20
1
Q1
Q2
TL2
R22
CN60
C23
TL4
20
1
R23
Q4
TL3
R1
K4
K5
K6
C2
R18
R19
C7
C9
Q3
C26
C24
L1
CK279400A5
C28
VF_DR PWB ASS'Y PbF

— SIDE B —

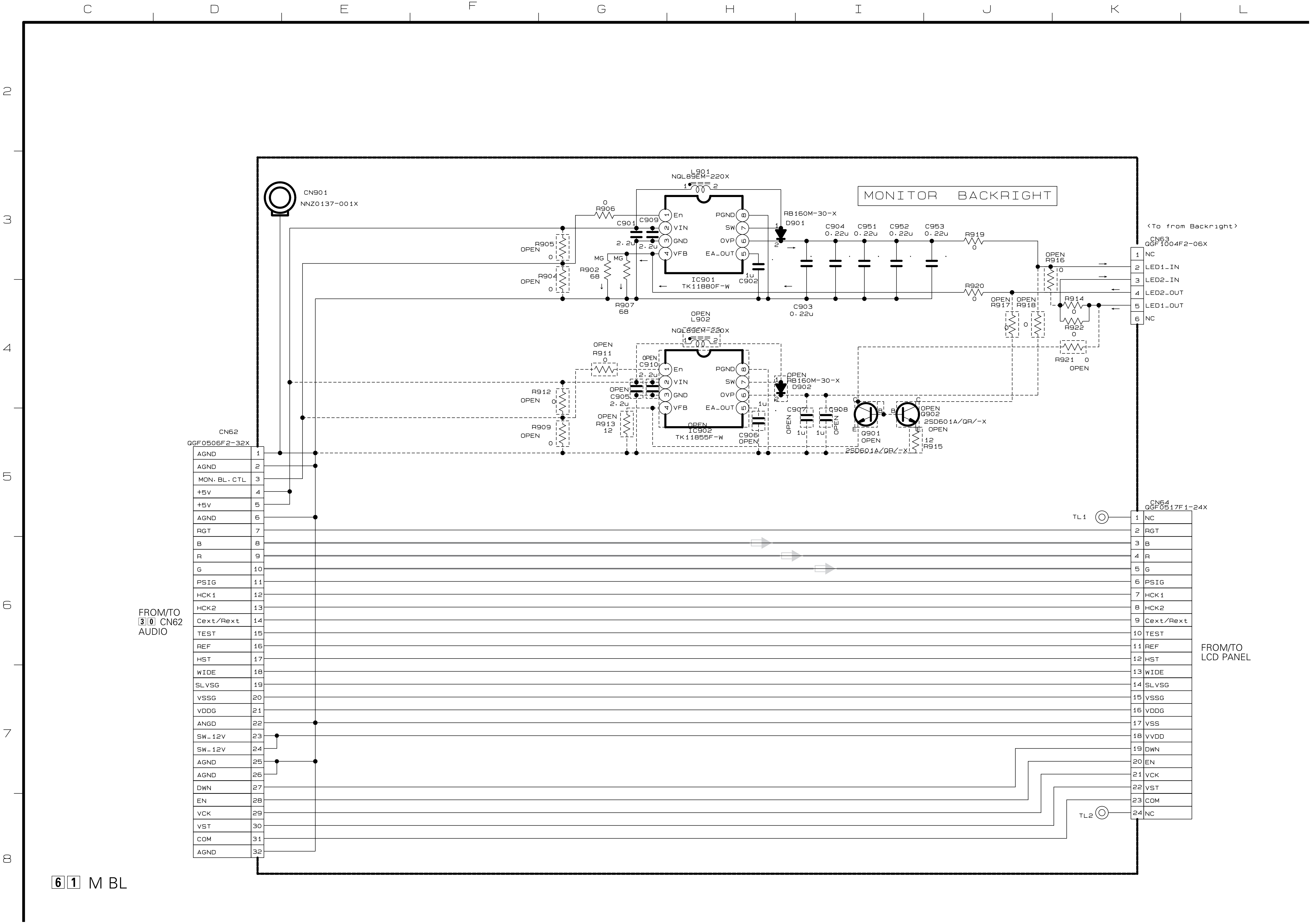

L4
D1
C51
C22
CN66
L3
R13
R14
R15
C21
C20
2
1
C18
C19
C16
C17
36
25
L5
R12
37
R17
R16
24
C14
C13
C6
IC1
C27
C11
C5
48
13
R11
1
12
C1
C2
C3
C4
R9
R8
C8
R3
R2
R1
C12
L2
C10
R10
R5
C25
VF DR PWB
SC82794-05-003

4.28 VF DR SCHEMATIC DIAGRAM



A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
L5
NQLA3GK-101X
<To from Backright>
CN66
GGA1002F1-02X
1 BL IN
2 BL OUT
Backlight
R23 MG
3.3k
Q4
DTC124EUA-X
Q3
DTA124EUA-X
Q1
2SD601A/QR/-X
Q2
2SD601A/QR/-X
C26
0.1u
R21 MG 560
R20 MG 68
R22 MG OPEN
L3
NQLA3GK-101X
A-GND
C13
0.1u
C16 2.2u
C15 2.2u
C14 2.2u
R12
100k MG
C17 0.1u
C19 0.1u
C18 10u
GND
TP5
COM OUT
TP4
L1
NQLA3GK-101X
C8 0.1u
C7 10u
C6 0.1u
C5 10u
C3 0.01u
C2 0.01u
C4 0.1u
C1 0.01u
CN60
QGF0517F1-20X
GND(G) 20
IN_G 19
GND(R) 18
IN_R 17
GND(B) 16
IN_B 15
RESET 14
AGND 13
+3.3V 12
+3.3V 11
+12V 10
+12V 9
AGND 8
S_CLK 7
S_DATA 6
VF_CS 5
GND(Side) 4
NC 3
+5V 2
+5V 1
FROM/TO
5 4 CN60
VF IF
K4
NQR0265-003X
K5
NQR0265-003X
K6
NQR0265-003X
K3
NQR0265-003X
K2
NQR0265-003X
K1
NQR0265-003X
TL4
TL3
R1
0
MG
R9 43k MG
R8 43k MG
C9 3.3u
R10 10k MG
C10 0.0068u
VCOREF
FILTER
GND
RPD
+3V/VCC1
SEN
SCK
SDAT
TEST1
TEST2
VD
GND
GND
SYNC_IN
B/B-Y
R/R-Y
G/Y
+3V/VCC1
REF
DA_OUT
COMREF
COM_OUT
COMDC
SIG_OUT
85V/VCC2
G_OUT
R_OUT
B_OUT
GND
GND
GND
+3V/VDD
VDD
HDD
POF
GND
XCLR
RGT
HCK1
HCK2
HST
+3V/VDD
PCG
XSTB
DWN
EN
VCK
VST
VF DRIVER
IC1
CXM3005TQ
TL1
TL2
R13 MG 10
R14 MG 10
R15 MG 10
LCD_G
TP1
LCD_R
TP2
LCD_B
TP3
C21 0.1u
C20 10u
R17 MG 0
R16 OPEN MG
L2
NQLA3GK-101X
C27 0.1u
C11 10u
R51 MG 0
R11 MG 100k
C12 1u
CN61
QGF0508F2-20X
1 COM
2 PSIG
3 CS
4 LCD_G
5 LCD_R
6 LCD_B
7 PCG
8 ENB
9 VCK
10 VST
11 XSTB
12 REF
13 DWN
14 RGT
15 HCK1
16 HCK2
17 HST
18 ASSG
19 A-GND
20 SW+8.5V
TO VF LCD
L4
NQLA3GK-101X
OPEN
C51
4.7u
C22
1u
D1
HZM5.6NB2-X
+8.5V REG
R18 68k MG
R19 MG 390k
C24 100p
+8.5V
+12V
C23 1u
Vin
FB
Vout
Vcont
GND
Nd
IC2
TK11100CSC-X
C25 1u
C26 0.001u
VF LCD DRIVER
3 4 VF DR

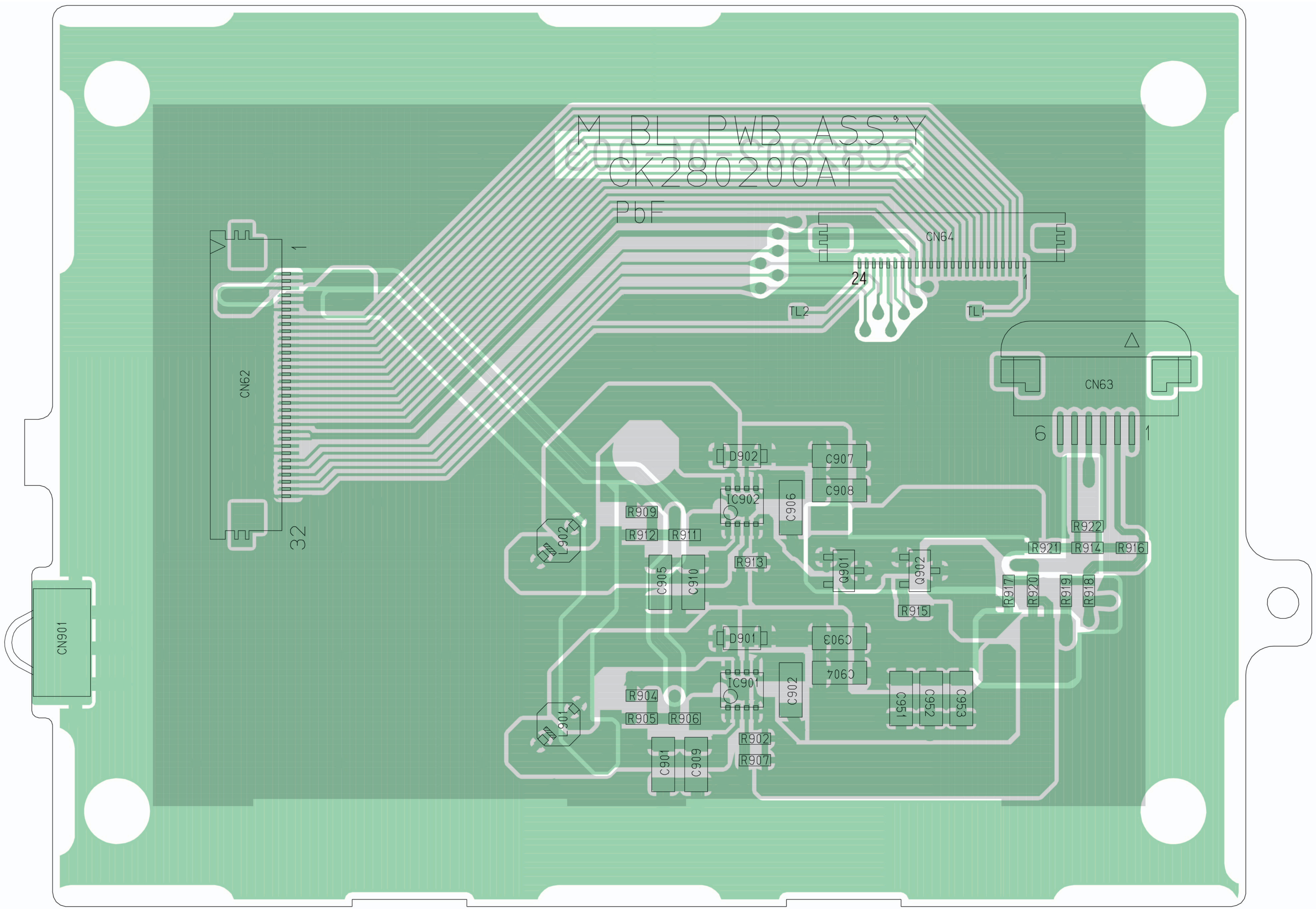
4.29 M BL SCHEMATIC DIAGRAM



C
D
E
F
G
H
I
J
K
L
2
3
4
5
6
7
8
MONITOR BACKRIGHT
CN901
NNZ0137-001X
L901
NQL89EM-220X
IC901
TK11880F-W
En
VIN
GND
VFB
PGND
SW
OVP
EA_OUT
R906 0
C901 2.2u
C909 2.2u
R905 OPEN 0
R904 OPEN 0
R902 68
R907 68
MG
C902 1u
RB160M-30-X
D901
C904 0.22u
C951 0.22u
C952 0.22u
C953 0.22u
C903 0.22u
R919 0
R920 0
OPEN R916 10
R914 0
R922 0
R921 0 OPEN
OPEN R917 0
OPEN R918 0
<To from Backright>
CN63
QGF1004F2-06X
1 NC
2 LED1_IN
3 LED2_IN
4 LED2_OUT
5 LED1_OUT
6 NC
OPEN L902
NQL89EM-220X
OPEN R911 0
OPEN C910 2.2u
OPEN C905 2.2u
R912 OPEN 0
R909 OPEN 0
OPEN R913 12
OPEN IC902
TK11855F-W
C906 OPEN 1u
OPEN RB160M-30-X
D902
C907 OPEN 1u
C908 OPEN 1u
Q901 OPEN
2SD601A/QR/-X
OPEN Q902
2SD601A/QR/-X
OPEN
12 R915
CN62
QGF0506F2-32X
1 AGND
2 AGND
3 MON.BL.CTL
4 +5V
5 +5V
6 AGND
7 RGT
8 B
9 R
10 G
11 PSIG
12 HCK1
13 HCK2
14 Cext/Rext
15 TEST
16 REF
17 HST
18 WIDE
19 SLVSG
20 VSSG
21 VDDG
22 ANGD
23 SW_12V
24 SW_12V
25 AGND
26 AGND
27 DWN
28 EN
29 VCK
30 VST
31 COM
32 AGND
FROM/TO
30 CN62
AUDIO
CN64
QGF0517F1-24X
TL1
TL2
1 NC
2 RGT
3 B
4 R
5 G
6 PSIG
7 HCK1
8 HCK2
9 Cext/Rext
10 TEST
11 REF
12 HST
13 WIDE
14 SLVSG
15 VSSG
16 VDDG
17 VSS
18 VVDD
19 DWN
20 EN
21 VCK
22 VST
23 COM
24 NC
FROM/TO
LCD PANEL
61 M BL

4.30 M BL CIRCUIT BOARD

– SIDE A –


M BL PWB ASS'Y
CK280200A1
PbF
CN64
24
1
TL2
TL1
CN62
1
32
CN63
6
1
D902
C907
C908
IC902
C906
R909
R912
R911
L902
C905
C910
R913
Q901
Q902
R922
R921
R914
R916
R917
R920
R919
R918
R915
D901
C903
C904
IC901
C902
R904
R905
R906
L901
C951
C952
C953
R902
R907
C901
C909
CN901

SECTION 8
TECHNICAL INFORMATION

8.1 HDV FORMAT

HDV format is a basic specification established jointly by Canon Inc., Sharp Corporation, Sony Corporation and Victor Company of Japan, Limited in 2003, which allows the recording and playback of HD video on DV cassette tapes.
Based on the common VCR "DV standard", the "HDV standard" is a HD VCR standard where data recording specifications of compressed HD signals in MPEG2 are newly defined. As it uses the same cassette, tape speed and truck pitch as the DV standard, main mechanisms such as drum and tape running system of the HDV standard can make use of those in the DV standard, making it highly compatible with the existing DV standard products.
There are two formats in "HDV standard"; HDV1 at 720p (720 effective scan lines/progressive) recording and HDV2 at 1080i (1080 effective scan lines/interlaced) recording.

8.1.1 HDV Features

(1) Allows recording and playback of HD video.
(2) Uses commonly available DVC standard cassette tapes.
(3) Realizes same recording time as DV format through MPEG-2 high compression
(4) Uses 720p (HDV1) progressive format and 1080i (HDV2) interlaced format
(5) Reinforces error correction ability
(6) Allows trick-play

HDV 720p standard is used in GY-HD100 and BR-HD50. Besides HD video, HDV720P standard also supports SD video progressive recording at 480/60p, 576/50p and 720/24p that is suitable for digital cinema. It also plans to support 720/50p/60p in the future.

8.1.2 HD Image Format

GY-HD100 employs the 720/30p format of HDV. 720/30p means the effective scan line is 720 (scan line 750), frame rate is 30Hz (practically 29.97Hz) and P means progressive scan. Similarly, 1080/60i means the effective scan line is 1080 (scan line 1125), field frequency is 60Hz (actual frame rate is 29.97Hz) and i indicates interlace.
In the case of SD image, it is 480/60i (NTSC), 576/50i (PAL). In addition, the progressive images and aspect ratio 16:9 images are also used.

HD images : 720/30p, 720/25p, 1080/60I, 1080/50i and etc.
SD images : 480/60i, 576/50i, 480/60p, 576/50p and etc.

8.1.3 Progressive method

In progressive scanning method, 1 screen is displayed with 1 scanning. In interlace method, 1 screen is displayed with 2 scanning, which are odd number lines scanning and even number lines scanning. In recent years, employment of progressive method of images is proceeding. Image scanning of DVD and PC is also progressive method. In addition, the popular LCD or Plasma TV and other display devices nowadays are also in progressive mode. The interlace images have to undergo I-P conversion. There are many advantages such as the maintenance of image quality, reduction of the conversion loss, and affinity with PC by employing progressive method when collecting data.

8.1.4 Comparison of HDV format and DV format

	HDV Format		DV format (SD)
	720p (HDV1)	1080i (HDV2)	
General			
Recording Media	Same as DV format (DV/Mini DV cassette)		DV/Mini DV
Truck width	10 μm	10 μm	10 μm/6.7 μm
Truck / Frame	Not specified		NTSC: 10 trucks /1 frame PAL: 12 trucks /1 frame
Video			
Video signal	720/30p, (720/60p) 720/25p, (720/50p) 720/24p 480/60p, 576/50p	1080/60i, 1080/50i	NTSC: 480/60i PAL: 576/50i
Number of pixels	1280 x 720 720 x 480 (480/60p) 720 x 576 (576/50p)	1440 x 1080	NTSC: 720 x 480 PAL: 720 x 576
Aspect ratio	16:9		4:3 (16:9)
Compression	MPEG-2 Video (profile & level: MP@H-14)		DCT (intra-frame)
Sampling frequency for luminance	74.25MHz/ 27MHz	55.7MHz	13.5MHz
Sampling format	4:2:0		NTSC 4:1:1 PAL 4:2:0
Quantization	8 bits (both luminance and chrominance)		
Bit rate after compression	Approx. 19Mbps	Approx. 25Mbps	Approx. 25Mbps
AUDIO			
Compression	MPEG1 Audio Layer II		Liner PCM
Sampling Frequency	48kHz		48k/ 44.1k/ 32kHz
Quantization	16 bits		16 /12bits
Bit rate after Compression	384kbps		Approx. 1.5Mbps
Audio Mode	Stereo (2 channels)		2ch / 4ch
SYSTEM			
Data Format	MPEG2 Systems		
Stream Type	Transport Stream	Packetized Elementary Stream	
Stream Interface	IEEE1394 (MPEG2-TS)		IEEE1394 (DV)

Table 8.1.2 Comparison of Format

8.1.5 Tape Format

HDV standard records MPEG data based on DV tape format. The recording method differs greatly for HDV1 and HDV2 in HDV standard. HDV1 records MPEG TS data in the conventional VIDEO sector. HDV2 breaks down the frame of conventional VIDEO and AUDIO sectors and takes in a large area that writes MPEG2 PES data (including GAP and a portion of SUB CODE sector).

(1) DV Format

ITI SECTOR	GAP	PCM AUDIO SECTOR	GAP	VIDEO SECTOR DV	GAP	SUB CODE	MAR

(2) HDV HD1 Format

ITI SECTOR	GAP	PCM AUDIO SECTOR	GAP	MPEG2 TS VIDEO, AUDIO, SEARCH	GAP	SUB CODE	MAR

(3) HDV HD2 Format

ITI SECTOR	MPEG2 PES VIDEO, AUDIO, SEARCH	SUB CODE	MAR

Table 8.1.3 Tape Format (conceptual diagram)

8.1.6 GY-HD100 & BR-HD50 Compatible Format

The following table shows a list of compatible formats.

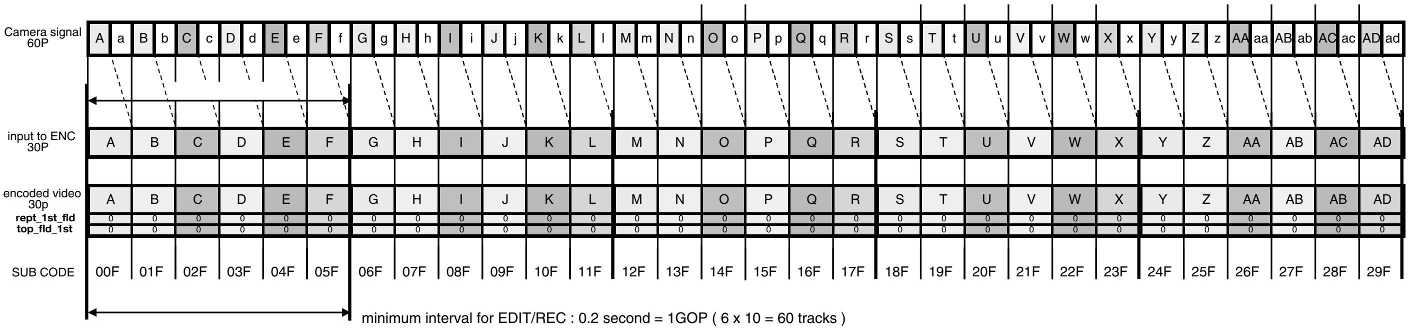
DV/HDV	Frame Rate	Recording Format	Remark
DV	60/30 Hz	480/60i	U-model only
	24 Hz	480/24p Normal mode (2-3-2-3 Pull Down)	GY-HD100 U-model only
		480/24p Advanced mode (2-3-3-2 Pull Down)	GY-HD100 U-model only
	50/25 Hz	576/50i	E-model only
		576/25p	GY-HD100 E-model only
HDV-SD	60/30 Hz	480/60p	GY-HD100/BR-HD50 U/E model in common
	50/25Hz	576/50p	
HDV-HD	60/30 Hz	720/30p	
	24 Hz	720/24p	
	50/25 Hz	720/25p	

Table 8.1.4 Compatible Format

8.2 RECORDING SIGNAL SYNTAX

8.2.1 720/30P

Camera signals are originally generated as 60P signals. FPGA4 (IC106) converts the camera signals from 60P to 30P. Thus alternate frames of camera signals are deleted. Converted 30P signals are inputted to S.ENC (IC91) and encoded to MPEG TS signals as 30P. GOP consists of six frames each so the minimum interval for recording/editing is 0.2 second.


Camera signal 60P
A a B b C c D d E e F f G g H h I i J j K k L l M m N n O o P p Q q R r S s T t U u V v W w X x Y y Z z AA aa AB ab AC ac AD ad
input to ENC 30P
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB AC AD
encoded video 30p
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB AB AD
rept_1st_fld
top_fld_1st
SUB CODE
00F 01F 02F 03F 04F 05F 06F 07F 08F 09F 10F 11F 12F 13F 14F 15F 16F 17F 18F 19F 20F 21F 22F 23F 24F 25F 26F 27F 28F 29F

minimum interval for EDIT/REC : 0.2 second = 1GOP (6 x 10 = 60 tracks)

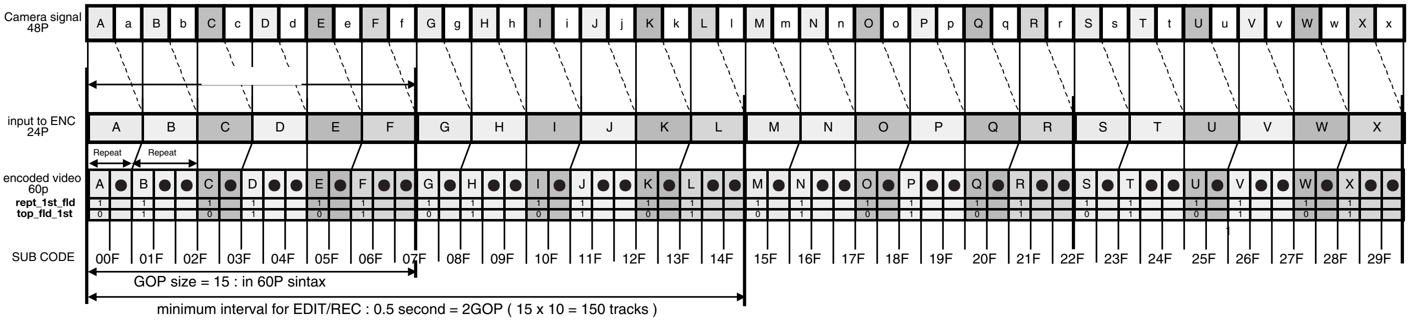
Fig. 8.2.1

8.2.2 720/24P

Camera signals are originally generated as 48P signals. FPGA4 (IC106) converts the camera signals from 48P to 24P. Thus alternate frames of camera signals are deleted. Converted 24P signals are inputted to S.ENC (IC91) and encoded to MPEG TS signals as 60P by 2-3 pull-down. First frame “A” of 24P is encoded to frame “A” and one frame “●”, which is without picture data, of 60P. Second frame “B” of 24P is encoded to frame “B” and two frames “●”, which are without picture data, of 60P. When playing back, each frame is displayed according to the combination of “rept_1st_fld” and “top_fld_1st” which are the number of repetition flag shown below.

“1” and “0”: displays applicable frame twice
“1” and “1”: displays applicable frame three times

GOP consists of six frames each however sub code is divided, so the minimum interval for recording/editing is required two GOP and is 0.5 second.


Camera signal 48P
A a B b C c D d E e F f G g H h I i J j K k L l M m N n O o P p Q q R r S s T t U u V v W w X x
input to ENC 24P
A B C D E F G H I J K L M N O P Q R S T U V W X
Repeat
Repeat
encoded video 60p
A ● B ● ● C ● D ● ● E ● F ● ● G ● H ● ● I ● J ● ● K ● L ● ● M ● N ● ● O ● P ● ● Q ● R ● ● S ● T ● ● U ● V ● ● W ● X ● ●
rept_1st_fld
top_fld_1st
SUB CODE
00F 01F 02F 03F 04F 05F 06F 07F 08F 09F 10F 11F 12F 13F 14F 15F 16F 17F 18F 19F 20F 21F 22F 23F 24F 25F 26F 27F 28F 29F

GOP size = 15 : in 60P sintax

minimum interval for EDIT/REC : 0.5 second = 2GOP (15 x 10 = 150 tracks)

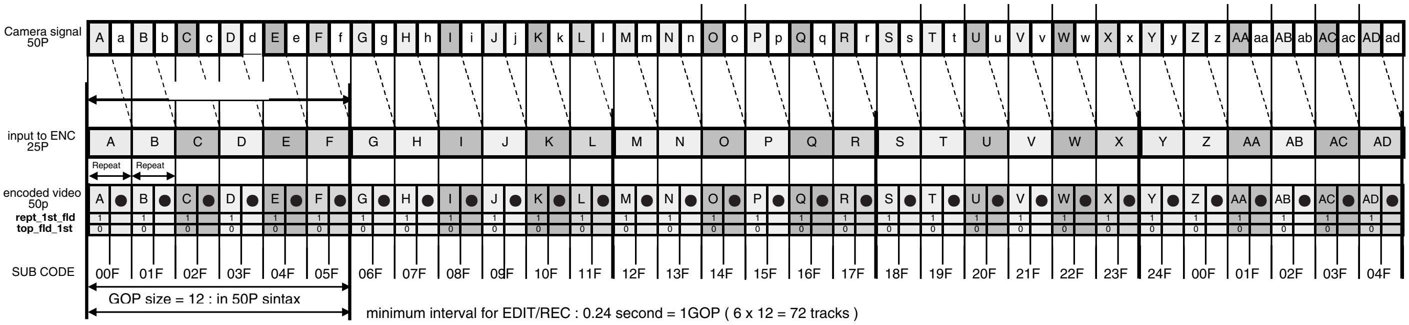
Fig. 8.2.2

8.2.3 720/25P

Camera signals are originally generated as 50P signals. FPGA4 (IC106) converts the camera signals from 50P to 25P. Thus alternate frames of camera signals are deleted. Converted 25P signals are inputted to S.ENC (IC91) and encoded to MPEG TS signals as 50P. First frame “A” of 25P is encoded to frame “A” and one frame “●”, which is without picture data, of 50P. When playing back, each frame is displayed according to the combination of “rept_1st_fld” and “top_fld_1st” which are the number of repetition flag shown below.

“1” and “0”: displays applicable frame twice

GOP consists of six frames each so the minimum interval for recording/editing is 0.24 second.


Camera signal 50P
A a B b C c D d E e F f G g H h I i J j K k L l M m N n O o P p Q q R r S s T t U u V v W w X x Y y Z z AA aa AB ab AC ac AD ad
input to ENC 25P
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB AC AD
Repeat
Repeat
encoded video 50p
A ● B ● C ● D ● E ● F ● G ● H ● I ● J ● K ● L ● M ● N ● O ● P ● Q ● R ● S ● T ● U ● V ● W ● X ● Y ● Z ● AA ● AB ● AC ● AD ●
rept_1st_fld
top_fld_1st
SUB CODE
00F 01F 02F 03F 04F 05F 06F 07F 08F 09F 10F 11F 12F 13F 14F 15F 16F 17F 18F 19F 20F 21F 22F 23F 24F 00F 01F 02F 03F 04F

GOP size = 12 : in 50P sintax

minimum interval for EDIT/REC : 0.24 second = 1GOP (6 x 12 = 72 tracks)

Fig. 8.2.3

8.3 VIDEO CIRCUIT

8.3.1 CCD

GY-HD100 now uses three pieces of 1/3 inch, effective pixels 1.04 million IT type CCD. The CCD's lamination utilizes with UV bonding.

(1) Specification

- Image type : Interline CCD image sensor
- Image size : 1/3 inch
- Total number of pixels : 1356 (H) x 824 (V) approx. 1.11M pixels
- Number of effective pixels : 1292 (H) x 810 (V) approx. 1.04M pixels
- Number of active pixels : 1280 (H) x 802 (V) approx. 1.02M pixels
- Chip size : 6.26mm (H) x 4.71mm (V)

(2) Pixel Reading

Although the CCD's effective pixels are 1292 x 810, the actual pixels are 1280 x 802 with 6 pixels taken away from the left and right, and 4 pixels from the top and bottom.

CCD is divided into two areas at the vertcal center line. Signals are read from the center towards the left and right simultaneously. From the CCD, the left and right signals are output, after which A/D conversion is performed, then the two signals will undergo MIX by camera process IC (FPGA2). Currently for CCD, its characteristic is a high drive frequency for reading HD sized pixels at one time, and because the high-speed electrification transfer speed cannot keep up, this method caters for it

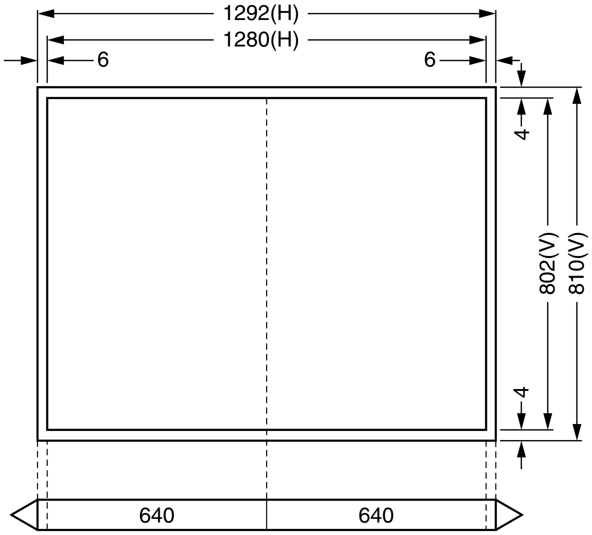


Fig. 8.3.1

8.3.2 VIDEO Signals

Fig. 8.3.3 is a block diagram of the video system.

[Recording]

(1) The two image signals that are output from RGB CCDs (ICX485) will each be A/D converted by AFE (IC2, IC3). AFE is an abbreviation of Analog Front End, and is hereafter referred to as digital signal. Each 12-bit signal line is inserted to the MAIN board from the IS board and then input to FPGA2 (IC46), camera process LSI.

(2) With FPGA2, white spot correction, black level correction, gamma correction, KNEE and other digital video signal processing will be carried out. After which, signals converted to digital components will be input to FPGA3 (IC60) and Pixel Converter (IC1, JCY0210).

(3) FPGA3 (IC60) is the gate array IC for LCD/VF Process. Rate conversion, peaking processing, Focus assist, OSD (On-Screen Display) MIX, etc. will be processed, and undergo digital to analog conversion by Video DAC (IC51, IC52). After which, analog RGB signals will be output to LCD and VF. IC48, IC49 (UPD6467GR) has one for VF and another for LCD, in the character generator for onscreen display. Onscreen data is sent to FPGA3.

(4) Pixel Conv (IC1) is an up/down converter.
When in DV mode, SD signals will be entered into DVC DSP (IC79, JCY0152) from Pixel Conv. Recorded signals will be processed with DVC DSP, then input to PRMDA board. They will undergo Amplifire by PRE/REC (IC3, JCY0132), and be recorded on DV tape. This DVC DSP (IC79, JCY0152) is the same as what is used at GY-DV5000.
When in HD mode, it will be input to FPGA4 (IC106) via 3DNR processing of Analog I/F (IC5, JCP8076).

(5) For FPGA4, because the output from camera is 60P/50P, it is converted to 30P/25P for recording. MOTION SMOOTH (selectable with the menu) will also be carried out. This enhances the smoothness of moving images by adding discarded information with original information via 30P/25P conversion.

(6) Signals from FPGA4 will be input to Super ENC (IC91). After MPEG encoding here, they will be output as MPEG TS signals, then input to MPEG Bridge (IC86, JCY0173). They will be input to DVC DSP after TS → DV conversion to match the DVC recorded track format. After which, like SD signals they will pass through PRMDA board's PRE/REC (IC3, JCY0132), then be recorded on DV tape.

[Playback]

(1) Playback signals recorded on DV tape are input to DVC DSP (IC79, JCY0172), DV signal process IC, via PRE/REC (IC3, JCY0132).

(2) When in SD mode, it will be DV decoded and then output to Pixel Conv (IC1). When in HD mode, it will be entered to Super ENC (IC91) via MPEG Bridge (IC86, JCY0173), then MPEG decode processed and output to Pixel Conv (IC1).

(3) After being converted to the selected video format (up/down convert) by pixel converter, and after analog conversion by analog I/F (IC5, JCP8076), it will be output as Video Out. Additionally it will be output as VF/LCD by means of FPGA2 to FPGA3. IC3, IC4 (BU3095-0CFV) is an onscreen character generator for VIDEO OUT. IC3 is for SD, and IC4 for HD, to send onscreen data to analog I/F (IC5, JCP8076).

■ Keyword

3DNR	: 3-Dimensional Noise Reduction
FPGA	: Field Programmable Gate Array (Programmable)
MOTION SMOOTH	: Moving Image Filter (function to smoothen movement)
Super ENC Ⅲ	: MPEG2 Encoding/Decoding Process LSI
Pixel Converter	: Up-down Converter LSI (480/60i, 576/50i, 480/60p, 576/50p, 720/60p/50p, 1080/60i/50i selection)
JTAG	: Boundary Scan Test Function (for design and development only)
EJTAG	: Real-time Debugging Function (for design and development only)

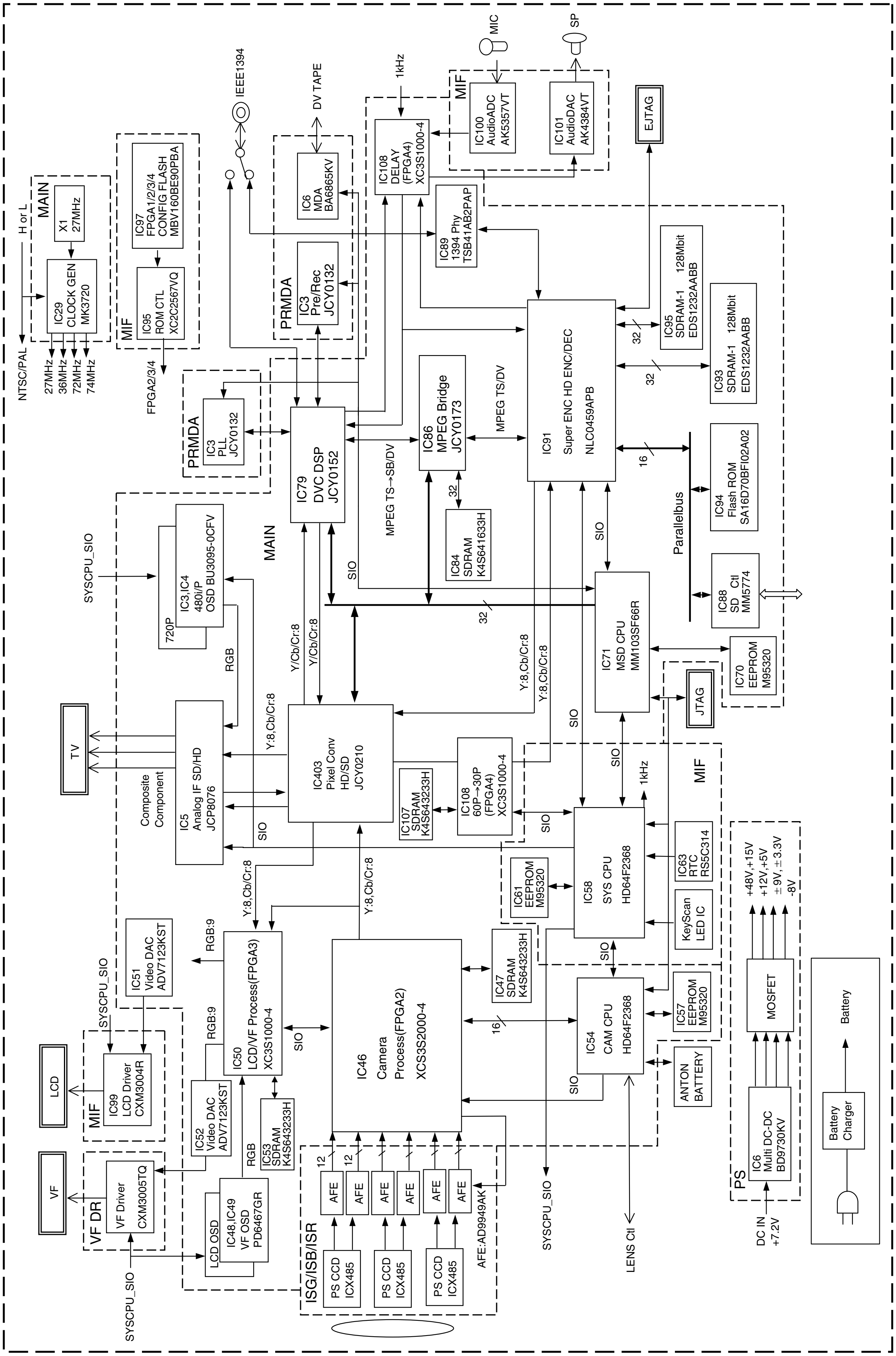

MAIN
H or L
X1
27MHz
IC29
CLOCK GEN
MK3720
NTSC/PAL
27MHz
36MHz
72MHz
74MHz
MIF
IC97
FPGA1/2/3/4
CONFIG FLASH
MBV160BE90PBA
IC95
ROM CTL
XC2C2567VQ
FPGA2/3/4
IEEE1394
DV TAPE
PRMDA
IC6
MDA
BA6865KV
IC3
Pre/Rec
JCY0132
1kHz
IC108
DELAY
(FPGA4)
XC3S1000-4
MIC
SP
MIF
IC100
AudioADC
AK5357VT
IC101
AudioDAC
AK4384VT
EJTAG
IC89
1394 Phy
TSB41AB2PAP
IC95
SDRAM-1 128Mbit
EDS1232AABB
IC93
SDRAM-1 128Mbit
EDS1232AABB
32
32
PRMDA
IC3
PLL
JCY0132
IC79
DVC DSP
JCY0152
IC86
MPEG Bridge
JCY0173
MPEG TS/DV
IC91
Super ENC HD ENC/DEC
NLC0459APB
16
Parallelbus
IC94
Flash ROM
SA16D70BFI02A02
MPEG TS→SB/DV
32
IC84
SDRAM
K4S641633H
SIO
MAIN
SYSCPU_SIO
720P
IC3,IC4
480i/P
OSD BU3095-0CFV
RGB
Y/Cb/Cr:8
Y/Cb/Cr:8
32
IC71
MSD CPU
MM103SF66R
IC88
SD Ctl
MM5774
IC70
EEPROM
M95320
JTAG
Y:8,Cb/Cr:8
Y:8,Cb/Cr:8
Y:8,Cb/Cr:8
TV
Composite
Component
IC5
Analog IF SD/HD
JCP8076
SIO
IC403
Pixel Conv
HD/SD
JCY0210
IC107
SDRAM
K4S643233H
IC108
60P→30P
(FPGA4)
XC3S1000-4
SIO
SIO
SIO
1kHz
MIF
IC58
SYS CPU
HD64F2368
IC61
EEPROM
M95320
IC63
RTC
RS5C314
KeyScan
LED IC
Y:8,Cb/Cr:8
Y:8,Cb/Cr:8
RGB:9
RGB:9
IC51
Video DAC
ADV7123KST
SYSCPU_SIO
IC50
LCD/VF Process(FPGA3)
XC3S1000-4
SIO
IC46
Camera
Process(FPGA2)
XCS3S2000-4
IC47
SDRAM
K4S643233H
16
SIO
IC54
CAM CPU
HD64F2368
IC57
EEPROM
M95320
ANTON
BATTERY
LCD
MIF
IC99
LCD Driver
CXM3004R
IC52
Video DAC
ADV7123KST
IC53
SDRAM
K4S643233H
RGB
VF
VF DR
VF Driver
CXM3005TQ
LCD OSD
IC48,IC49
VF OSD
PD6467GR
SYSCPU_SIO
12
12
AFE
AFE
AFE
AFE
AFE
AFE
ISG/ISB/ISR
PS CCD
ICX485
PS CCD
ICX485
PS CCD
ICX485
AFE:AD9949AK
SYSCPU_SIO
LENS Ctl
+48V,+15V
+12V,+5V
± 9V, ± 3.3V
-8V
MOSFET
IC6
Multi DC-DC
BD9730KV
PS
DC IN
+7.2V
Battery
Battery
Charger

Fig. 8.3.3 VIDEO BLOCK DIAGRAM

8.3.3 AUDIO Signals

DV Format : DV Audio Standard
HDV Format : Compression Method : MPEG1 Audio Layer Ⅱ
Sampling Frequency : 48kHz, No. of Bits for Quantization : 16bit
Bit Rate : 384kbps, Sound Mode : Stereo (2ch)

Fig. 8.3.4 is a block diagram of the audio system.

[Recording]

(1) Mic input (analog signal) signals enter from AUDIO_IN1 and AUDIO_IN2 to the AUDIO board. In the case of AUTO mode, they will be input to the MIF board via ALC IC (IC201, IC202). In the case of MANUAL mode, it will be input to the MIF board via REC LEVEL VR of the AVR board.
(2) It will be analog to digital converted (IC100, AK5357VT) by the MIF board. Digitalized audio data (ANA_IN_DAT) will be output from the MIF board, then input to FPGA4 (IC106) of the MAIN board. Data when in SD mode will be input to DVC DSP (IC79, JCY0152) as it is, and data when in HD mode will be input to Super ENC (IC91) after undergoing sampling clock conversion (64fs to 32fs conversion).
(3) When in SD mode, its format will be converted by DV DSP (IC79, JCY0152) for recording, then recorded on DV tape as linear PCM. When in HD mode, after being compressed to MPEG1 Audio Layer Ⅱ by Super ENC (IC91), it will pass through MPEG Bridge (IC86, JCY0173) and then be input to DVC DSP (IC79, JCY0152) as MPEG2 TS data. After which, it will pass through PRMDA board's PRE/REC (IC3, JCY0132), then be recorded on DV tape.

[Playback]

(1) Playback signals will undergo AMP at PRE/REC (IC3, JCY0132) and when in SD mode, only audio data will be input by DVC DSP (IC79, JCY0152) to FPGA4 (IC106) as "PB_SD_DAT". When playing back in HD mode, MPEG2 TS data will, via MPEG Bridge (IC86, JCY0173), be input to FPGA4 (IC106) as "PB_HD_DAT" after undergoing the MPEG decoding process by Super ENC (IC91).
(2) With FPGA4 (IC106) it will pass through the selector, then delay 1 frame and output. AUDIO data (ANA_OUT_DAT) output from FPGA4 will be input to the MIF board from the MAIN board. It will undergo digital to analog conversion at IC101 (AK4384VT), then be output to audio out and speaker.

■ Keyword
CLK_24M : AUDIO master clock when in SD mode 24.576MHz
CLK_24M : AUDIO master clock when in SD mode 24.576MHz
Fs : Sampling Frequency 44.1kHz
BCK : AUDIO Bit Clock
LRCK : AUDIO LR Clock
MCK : AUDIO Clock
DAT : AUDIO Digital Data
PLL : Phase Locked Loop
MUX/DMUX : Multiplexer/Demultiplexer

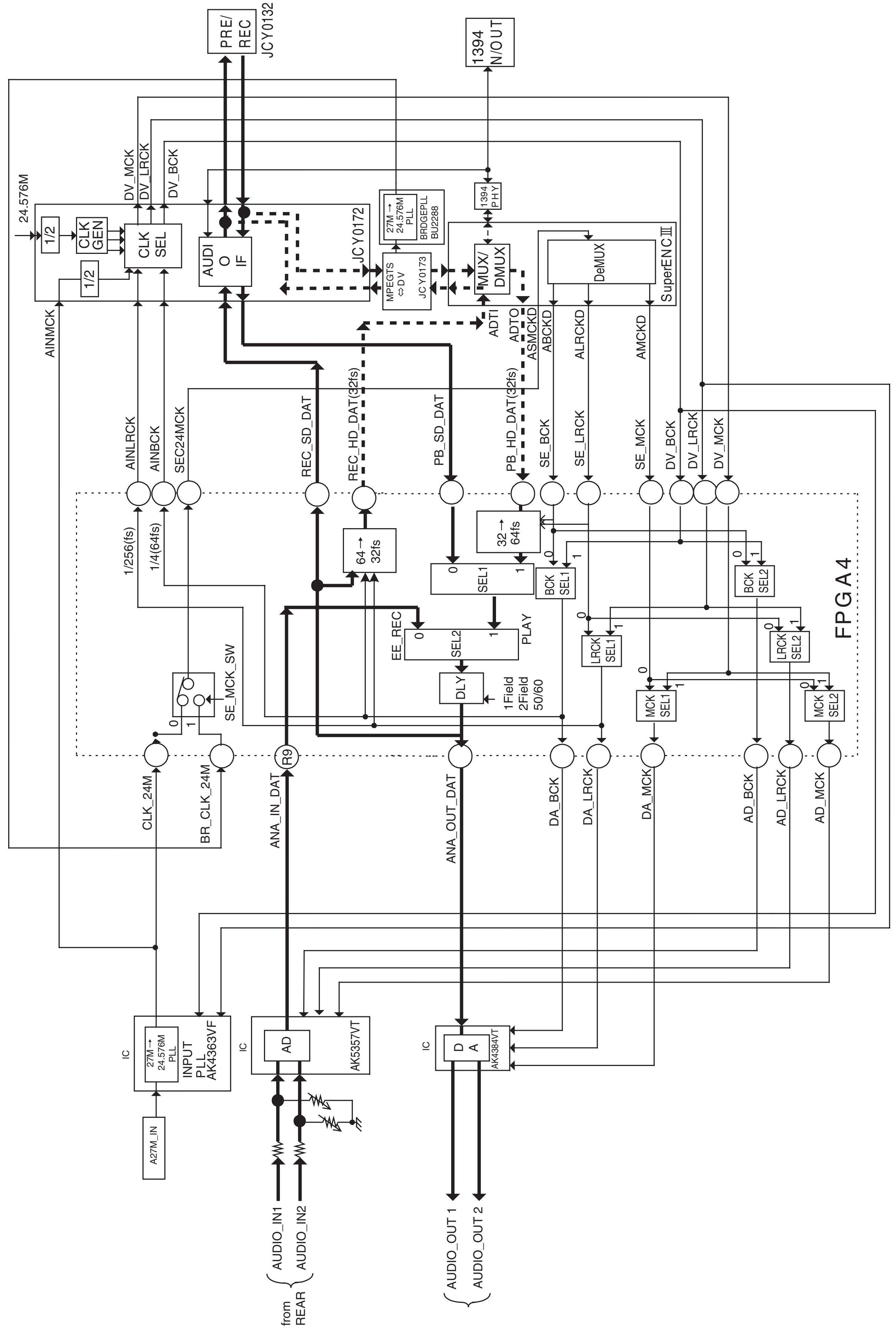
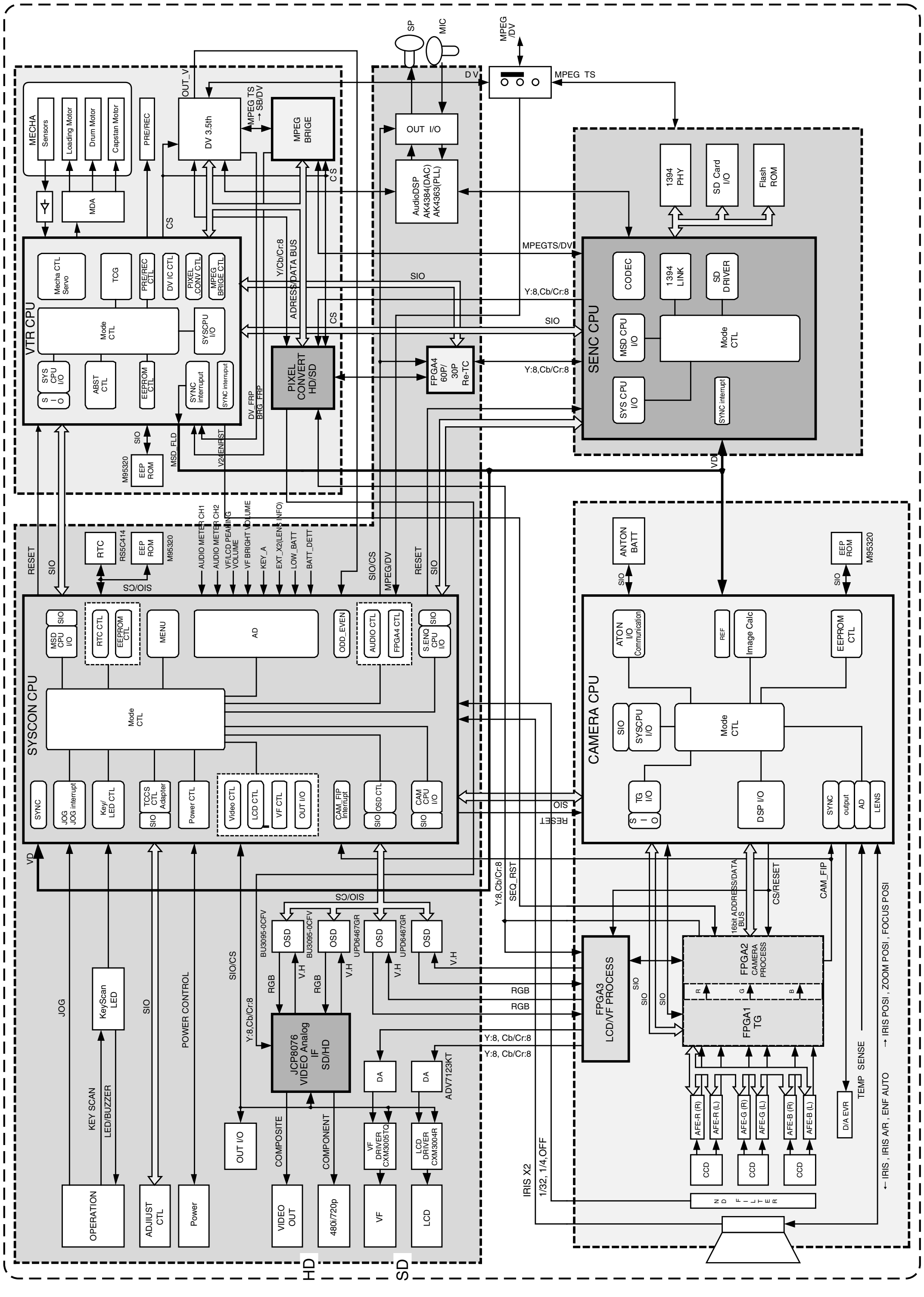

PRE/
REC
JCY0132
1394
N/OUT
24.576M
DV_MCK
DV_LRCK
DV_BCK
1/2
CLK
GEN
CLK
SEL
1/2
AUDI
O
IF
JCY0172
27M→
24.576M
PLL
BRDGEPLL
BU2288
1394
PHY
MPEGTS
⇔DV
JCY0173
MUX/
DMUX
DeMUX
SuperENCⅢ
AINMCK
ADTI
ADTO
ASMCKD
ABCKD
ALRCKD
AMCKD
AINLRCK
AINBCK
SEC24MCK
REC_SD_DAT
REC_HD_DAT(32fs)
PB_SD_DAT
PB_HD_DAT(32fs)
SE_BCK
SE_LRCK
SE_MCK
DV_BCK
DV_LRCK
DV_MCK
1/256(fs)
1/4(64fs)
64→
32fs
32→
64fs
0
SEL1
1
0
BCK
SEL1
1
0
BCK
SEL2
1
FPGA4
EE_REC
0
SEL2
1
PLAY
0
LRCK
SEL1
1
0
LRCK
SEL2
1
DLY
1Field
2Field
50/60
0
MCK
SEL1
1
0
MCK
SEL2
1
SE_MCK_SW
0
1
CLK_24M
BR_CLK_24M
R9
ANA_IN_DAT
ANA_OUT_DAT
DA_BCK
DA_LRCK
DA_MCK
AD_BCK
AD_LRCK
AD_MCK
IC
27M→
24.576M
PLL
INPUT
PLL
AK4363VF
IC
AD
AK5357VT
IC
D
A
AK4384VT
A27M_IN
AUDIO_IN1
AUDIO_IN2
from
REAR
AUDIO_OUT 1
AUDIO_OUT 2

Fig. 8.3.4 AUDIO BLOCK DIAGRAM

8.3.4 SYSTEM CONTROL

Fig. 8.3.5 is a block diagram of the system control. GY-HD100 is equipped with four CPUs. It also has four programmable gate arrays (FPGA). CPU's firmware and FPGA's programs are rewritable using onboard with the SD card.

- CAMERA CPU : Control of Camera
- MSD (VTR) CPU : Control of VTR
- Super ENC CPU : Control of Encoder
- SYSCON CPU : Control of whole camcorder, Key operation and onscreen control



SP
MIC
MPEG /DV
DV
MPEG TS
MECHA
Sensors
Loading Motor
Drum Motor
Capstan Motor
PRE/REC
OUT_V
DV 3.5th
MPEG TS → SB/DV
MPEG BRIGE
OUT I/O
AudioDSP AK4384(DAC) AK4363(PLL)
CS
MDA
1394 PHY
SD Card I/O
Flash ROM
MPEGTS/DV
VTR CPU
Mecha CTL Servo
TCG
PRE/REC CTL
DV IC CTL
PIXEL CONV CTL
MPEG BRIGE CTL
Y/Cb/Cr:8
ADDRESS/DATA BUS
SIO
Mode CTL
SYSCPU I/O
SYS CPU I/O
ABST CTL
EEPROM CTL
SYNC interrupt
SYNC interrupt
PIXEL CONVERT HD/SD
FPGA4 60P/30P Re-TC
Y:8,Cb/Cr:8
SENC CPU
CODEC
1394 LINK
SD DRIVER
MSD CPU I/O
Mode CTL
SYS CPU I/O
SYNC interrupt
DV_FRP
BRG_FRP
MSD_FLD
V24ENFST
M95320
EEP ROM
VD
RESET
RTC
RS5C414
EEP ROM
M95320
SIO/CS
AUDIO METER CH1
AUDIO METER CH2
VF/LCD PEAKING VOLUME
VF BRIGHT VOLUME
KEY_A
EXT_X2(LENS INFO)
LOW_BATT
BATT_DETT
SIO/CS
MPEG/DV
SYSCON CPU
MSD CPU I/O
RTC CTL
EEPROM CTL
MENU
AD
ODD_EVEN
AUDIO CTL
FPGA4 CTL
S.ENC CPU I/O
Mode CTL
SYNC
JOG JOG interrupt
Key/ LED CTL
TCCS CTL Adapter
Power CTL
Video CTL
LCD CTL
VF CTL
OUT I/O
CAM_FIP interrupt
OSD CTL
CAM CPU I/O
ANTON BATT
EEP ROM
M95320
CAMERA CPU
ATON I/O Communication
REF
Image Calc
EEPROM CTL
SYSCPU I/O
Mode CTL
TG I/O
DSP I/O
SYNC
output
AD
LENS
Y:8,Cb/Cr:8
SEQ_RST
16bit ADDRESS/DATA BUS
CS/RESET
CAM_FIP
OSD
BU3095-0CFV
UPD6467GR
V.H
RGB
SIO/CS
Y:8,Cb/Cr:8
JCP8076 VIDEO Analog IF SD/HD
DA
ADV7123KT
Y:8, Cb/Cr:8
FPGA3 LCD/VF PROCESS
FPGA2 CAMERA PROCESS
FPGA1 TG
R
G
B
AFE-R (R)
AFE-R (L)
AFE-G (R)
AFE-G (L)
AFE-B (R)
AFE-B (L)
CCD
D/A EVR
TEMP SENSE
→ IRIS POSI , ZOOM POSI , FOCUS POSI
← IRIS , IRIS A/R , ENF AUTO
ND FILTER
IRIS X2
1/32, 1/4,OFF
JOG
KeyScan LED
KEY SCAN
LED/BUZZER
POWER CONTROL
OUT I/O
COMPOSITE
COMPONENT
VF DRIVER CXM3005TQ
LCD DRIVER CXM3004R
OPERATION
ADJUST CTL
Power
VIDEO OUT
480/720p
VF
LCD
HD
SD

Fig. 8.3.5 SYSTEM CONTROL BLOCK DIAGRAM

8.4 GLOSSARY

1-9

1080i
HDTV format. Vertical lines 1,080 x horizontal pixels 1,920, displayed in interlace method. Aspect ratio 16:9, frame rate 29.97 Hz.

2-3 Pull Down
This is the method used for converting (pull down) movie film image (24 frame/sec) to TV signal (30 frame), which assigns 1 film frame to 2 fields, and next film frame to 3 fields in the film. In this case, 2 different fields (consecutive 2 frames) mix together to build up 1 frame in every 5 frames. There is a drawback that the picture quality will deteriorate.

480p
HDTV format. Vertical lines 480 x horizontal pixels 720, displayed in progressive method. 4:3 or 16:9, frame rate is 59.94 Hz, 29.97 Hz or 23.98 Hz

480i
Standard TV (SDTV) format, used by NTSC. Vertical lines 480 x horizontal pixels width 720, displayed in interlace method. Aspect ratio 4:3 or 16:9, frame rate 29.97 Hz.

576i
Standard TV (SDTV) format, used by PAL. Vertical lines 576 x horizontal pixels width 720, displayed in interlace method. Aspect ratio 4:3 or 16:9, frame rate 25 Hz.

720p
HDTV format. Vertical lines 720 x horizontal pixels 1280, displayed in progressive method. Aspect ratio 16:9, frame rate is 59.94 Hz, 29.97 Hz or 23.98 Hz

A-Z

Aspect ratio
The ratio of the width of video image to the height. Normally 3:4 for SDTV and 16:9 for HDTV

Bps
Abbreviation for Bits per second. Indicates the data size transferable in 1 second.

Compression
Reduce the size of digital information required for reproducing TV image or frame in mathematical method.

DVI
The interface standard for connecting PC and monitor. DVI-I supports both analog and digital connections, while DVI-D supports digital connection only.

Encoder
Compress image or audio data to prescribed stream. On the contrary, the decoder expands compressed stream to image or audio data.

GOP
Abbreviation for Group Of Picture.
This refers to the group of successive still images used for compression of MPEG. There is only one intra-frame compression image, I-picture within the group, while other frames contain only differential data, P-picture and B-picture. The number of frames in the GOP can be adjusted accordingly.

HDCP
Abbreviation for High-bandwidth Digital Content Protection. HDCP is a specification originally developed by Intel Corporation to enforce copyrights of digital entertainment content across the DVI interface, and now across the HDMI interface as well.

HDMI
Abbreviation for High-Definition Multimedia Interface. HDMI which was built on the foundation of DVI-HDCP, transmits uncompressed high definition video and multi-channel digital audio in a single cable with a maximum data transfer speed of 5Gbits/sec. HDMI systems while maintaining backward compatibility with DVI-HDCP devices.
HDMI supports uncompressed standard, enhanced and high definition video format as well as compressed audio formats such as Dolby Digital, DTS and uncompressed format such as PCM audio. In addition, it also supports the HDCP standard of digital video signals.

HDTV
Abbreviation for High-definition television.
A generic name of next generation TV that the number of scan line has been increased and the picture quality has been improved as compared to current TV. Aspect ratio 16:9, generally refers to 1080i or 720p.

Interlaced
In TV scanning method, 1 screen is displayed with 2 scanning, which are odd number lines scanning and even number lines scanning.

I-P Conversion
Convert the scanning method from Interlaced to Progressive.

MPEG-2
Abbreviation for Moving Picture Experts Group, Phase 2. Unlike previous compression methods, MPEG-2 uses an extremely efficient compression method that supports high-definition video. Based on the principle that much video data remains uncharged from one frame to the next, predictive coding is performed to eliminate redundant data.
Specifically, compression is applied between frames (based on DCT, Discrete Cosine Transform) and within frames (based on DCT) for an extremely efficient compression technique.

Pixel
The minimum unit of display color. The frame is consist of the lines and columns of pixels. The pixels and line number of each frame indicate the resolution of video image.

Progressive
In TV scanning method, 1 screen is displayed with 1 scanning.

SDI (Serial digital video interface)
A transmission standard defined by SMPTE, which is used when transmitting SD video by 270M, 360M or 540 Mbps, HD video by 1.485 Gbps with the video device connected.

SDTV (Standard definition television)
A standard precise video system, which aspect ratio is 4:3. Generally refers to 480i/576i.

STREAM
A series of encoded data of image and audio.

TS (Transport Stream)
Data stream containing supplementary data, compressed video and compressed audio.

UP/DOWN convert
DOWN convert refers to converting HD signal (720P/1080I) to SD signal, whereas UP convert refers to the reverse conversion.